

# FUSION SKILLS:

Perspectives and Good Practice

July 2013

creative  
**skillset**

Developing world class talent

# CONTENTS

---

ACKNOWLEDGEMENTS	3
EXECUTIVE SUMMARY	4
Report structure	6
<b>1. THE FUSION CONTEXT</b>	<b>7</b>
1.1 The problem with fusion	7
1.2 Perspectives	8
1.3 Good practice versus best practice	8
1.4 Focusing the fusion lens	10
<b>2. EMERGING THEMES</b>	<b>12</b>
2.1 Horses for courses	12
2.2 Fusion? So over it!	12
2.3 Social skills	13
2.4 Digital versus Digital content industries	13
2.5 HE partnerships with the industries: Training	14
2.6 Practical and romantic	14
2.7 Make the space: physical and metaphorical	14
2.8 What are you fusing?... What have you got?	15
2.9 T-skills versus T-team	15
2.10 The power of diversity	15
<b>3. DEFINING FUSION</b>	<b>16</b>
3.1 Fusion 1: fusing key expertise, knowledge and experience in individuals	17
3.2 Fusion 2: fusing industry and higher education together	19
3.3 Fusion 3: fusing the different parts of the creative media industries together	22
3.4 Fusion 4: creating fusion management skills	24
<b>4. RECOMMENDATIONS</b>	<b>26</b>
APPENDIX 1 – Historical perspectives	29
APPENDIX 2 – Example projects for Creative Skillset to consider	32
APPENDIX 3 – Fusion activity	40
APPENDIX 4 – Further reading list	52
APPENDIX 5 – Contributors	59

# ACKNOWLEDGEMENTS

---

This report is a collaborative effort, led by us and partnered with Creative Skillset. Whilst any errors existing in the report remain the responsibility of the authors, Triston Wallace and Alastair Barber, we are particularly grateful for the input made by Dr Kion Ahadi (Creative Skillset), Saint John Walker (Creative Skillset) and Nicole Hay (Creative Skillset). We are also very grateful for the thoughts of all those who engaged with the research (see Appendix 5), which provided many useful insights and valuable support.

# EXECUTIVE SUMMARY

---

The discussion and debate around the concept of fusion and its implications for the creative media industries is hindered by the lack of clear and agreed definitions. Fusion itself means different things to different people and the creative media industries are often defined by differing terms. Just as fundamentally, the 'problem' of fostering the skills required to thrive in the midst of fusion has not been defined.

In considering the issues associated with these definitions, this report doesn't attempt to identify or describe 'best practice' or give a recipe to follow – instead it aims to point out, analyse or describe 'good practice': broad approaches that work in their own context and which might give clues or lessons or be modified and adapted to be used elsewhere.

The report is based on desk research that explored a wide range of current programmes, curricula, associations and institutions (and also a few not so current ones). This was augmented by interviews with a wide range of academics and professionals who have relevant interests or experience. The authors would like to thank all who gave up their time and wisdom to help shape it.<sup>1</sup>

What emerges initially is a set of themes or characteristics that do not lend themselves to easy classification but that are important to any understanding of the concept of fusion and its implications.

The creative media industries are not homogenous. Some, such as advertising, have identified a response to fusion forces as being amongst their most important tasks, fundamental to continued commercial success.

Some 'digital native' companies and industries, such as computer games, base their entire business model on competitive advantage gained through an adept and dynamic response to fusion.

On the other hand, some of the more traditional content creation industries are used to a slower cadence of disruptive cycles. These are struggling to pin down what fusion implies in order to know how best to respond and with which strategic and tactical tools.

This inertia is dangerous and the lesson seems to be 'just respond', see how that goes and then respond again. This might be as simple as getting business leaders and the workers they lead out into a bigger, wider world to make connections and share experiences with a different set of peers that aren't defined by an industry or a sector but by a common curiosity about what fusion might mean.

<sup>1</sup> For a full list of contributors, see Appendix 5.

Whilst rejecting the value of putting a single definition on fusion, this report does acknowledge the need for a framework to help make sense of what is going on. It proposes four aspects of fusion that warrant distinct consideration:

- Fusing key expertise, knowledge and experience in individuals.
- Fusing industry and higher education together.
- Fusing the different parts of the creative media industries together.
- Creating fusion management skills.

As a response to these aspects, the report recommends some principles for skills development under each.

It further recommends that Creative Skillset should support and undertake a mixture of activity that:

- builds and celebrates [T-shaped teams](#) and the skills needed to manage them;
- works with existing business accelerators to create a [digital content start-up boot camp](#), creating a future pool of new ventures that opens up opportunities for more traditional content makers;
- establishes the physical, mental and virtual [space for innovation](#);
- drives up demand for [collaboration between higher education and industry](#).

Recent evidence from the film sector points to a strong link between sustained and strategic investment in skills and workforce development, and a sustained and significant economic growth of that same sector.<sup>2</sup>

By being clear about what fusion is, what impact it has on the creative media industries and what activity the workers, leaders and educators involved in skills development should undertake to capitalise on and harness these changes, a future plan can be made.

It's hoped that this report will stimulate debate but, most importantly, action. There are suggestions and examples scattered throughout – and especially in the appendices – that might be relevant to a broad range of academics, business leaders, students and creative workers. We urge readers to pick just one that they like the sound of and get involved or, better still, create something similar for themselves.

Because the good news for the creative media industries is that the best response to fusion is [creativity](#). How are you responding? What are you creating?

<sup>2</sup> Creative Skillset (forthcoming in 2013), Futures Forecasting Model for the Creative Industries.

# REPORT STRUCTURE

---

This report breaks down into four broad sections:

## SECTION 1: INTRODUCTION AND OVERVIEW

This section sets out the scope of the report. It explores the ambiguity around the term fusion and how the report hopes to deal with that. The fusion debate is, in part, sparked by Google Executive Chairman Eric Schmidt's quote at the MacTaggart Lecture, in 2011:

*"You need to bring art and science back together. Think back to the glory days of the Victorian era. It was a time when the same people wrote poetry and built bridges... Over the past century the UK has stopped nurturing its polymaths. There's been a drift to the humanities – engineering and science aren't championed. Even worse, both sides seem to denigrate the other... you're either a 'luvvy' or a 'boffin'."*

And so the introduction – and this report as a whole – also draws lessons from the historical context around the 'current' hot topics of polymaths, interdisciplinary co-operation and the impact of new technology on industries. It signposts material in Appendix 1 where, amongst other things, we describe one method the Victorian industrialists used to harness fusion forces in the way that Schmidt celebrates.

## SECTION 2: EMERGING THEMES

In the course of the desk research and interviews that inform this report a number of broad themes emerged and recurred. These don't lend themselves to any clear narrative or classification; rather they are a selection of themes associated with one or a number of the definitions of fusion, or with the key players in skills development in support of fusion activity in the creative media industries. This section is a series of vignettes describing each theme. They are presented in no particular order but are intended to give the reader a feeling for the characteristics of fusion and the way it helps or hinders the creative media industries.

## SECTION 3: DEFINING FUSION

This section presents four definitions of fusion in the creative media industries. It describes briefly how each is helping or hindering the creative media industries. This section draws heavily on an aggregated list of courses, interventions, schemes and investments associated with supporting fusions skills development that can be found in Appendix 3.

## SECTION 4: WHAT MIGHT BE DONE?

This final section makes some recommendations for the types of activities that might be developed. It suggests some guiding principles for activity to support skills development under each of the four definitions identified in the previous section. Example activities that might be developed following these recommendations can be found in Appendix 2.

# 1. THE FUSION CONTEXT

## THE FUSION CONTEXT

Digital technology continues to have a transformational effect on the creative media industries. Every part of the sector has had its workflows, working practices, relationship with consumers and business models altered, nudged and in some cases radically transformed by the possibility of creating, editing and consuming media digitally.

The ease with which work can be shared, manipulated, duplicated and broadcast to co-workers and audiences is growing every day. The costs of hardware, storage and software used by the industries are ever decreasing.

This transformation has not stopped at the equipment and workflows used in the industries; it also has an ever-disruptive effect on business models. Changing costs, changing supply chains, changing clients and changing consumers all contribute.

Out of all this change comes a desire to instil in the industries a blend of specific skills and knowledge – a fusion of creativity, business knowledge and technological understanding.

This impetus for a mix of expertise and experience is not new. Ask businesses and educational institutions five, ten, 20 or even 100 years ago, what skills entrants coming into the creative media industries will need and you would find most of the same answers: [a creative mindset, a keen entrepreneurial spirit and a passion for what technology can do.](#)

But the speed of the current changes is unprecedented. It is vital that we all – educators, students, businesses and policy makers – share an understanding of what fusion is, where it is impacting on the creative media industries, and what should be done to harness the changes for economic and industrial growth.

## 1.1. THE PROBLEM WITH FUSION

### FUSE: VERB

1. [with obj.] join or blend to form a single entity: intermarriage had fused the families into a large unit.
  - [no obj.] (of groups of atoms or cellular structures) join or coalesce: the two nuclei move together and fuse into one nucleus.

### FUSE: NOUN

2. A tube, cord or the like, filled or saturated with combustible matter, for igniting an explosive.

### FUSION: ADJECTIVE

3. (of food or cooking) That incorporates elements of diverse cuisines: "Latin/Japanese fusion cuisine".

Say 'fuse' and people immediately know what you're talking about. But if you are using the word as a noun and they think you're using it as a verb then you're going to confidently misunderstand each other in a way that might be disastrous... or might not matter at all.

Semiotics aside, the use of fuse or fusion in the policy, practice and impact of skills development is apt to lead to confusion unless assumptions about the nature of the topic under discussion are clearly stated and understood.

It's a simple enough idea at first glance: the concept of unleashing economic energy based on the interaction of a critical mass of creative, technical and business skills.

But the potential for confusion and misunderstanding arises from two things: one's [perspective](#) and the [relationship between inputs and outputs](#).

# 1. THE FUSION CONTEXT

## 1.2. PERSPECTIVES

Let's consider just three possible perspectives:

**The individual:** One should support individuals to develop a range of skills – possibly focused on a core specialism – that allows them to explore and exploit their potential fully.

This might lead one to develop a series of specific interventions – courses or modules such as: Coding for Artists; The Entrepreneurial Programmer; Cinematography for the FX Technician; Wordpress for the Textiles Designer.

**The 'firm':** One should support SMEs to take advantage of new workflows and markets arising from the disruptive impact of digital technology.

This might lead one to host jams, hacks and creative conferences bringing together SMEs from different sectors/industries: preparing fertile ground for serendipity, connections and idea generation.

**The industry:** One should look to foster and inject new skills into established but – perhaps – decreasingly relevant industries so that they can be agile enough to develop new business models to protect traditional market positions and break into new ones.

This might lead one to work in tandem with professional bodies and industry associations to inspire fresh thinking at management level whilst aiding recruitment and partnership opportunities to import or bolt on capabilities to existing businesses.

These are shallow summaries of only three possible perspectives, but serve to illustrate the potential breadth of expectations any strategy to support 'fusion skills' might raise – and disappoint.

## 1.3. GOOD PRACTICE VERSUS BEST PRACTICE

It is worth considering what type of problem we are dealing with when proposing a solution to an issue such as fusion skills. A good description of problem types is provided below:

*"Two professors who study the science of complexity... have proposed a distinction among the different types of problem in the world: the simple, the complicated and the complex. Simple problems, they note, are ones like baking a cake from a mix. There is a recipe. Sometimes there are a few basic techniques to learn. But once these are mastered, following the recipe brings a high likelihood of success.*

*"Complicated problems are ones like sending a rocket to the moon. They can sometimes be broken down into a series of simple problems. But there is no straightforward recipe. Success frequently requires multiple people, often multiple teams, and specialised expertise. Unanticipated difficulties are frequent. Timing and co-ordination become serious concerns.*

*"Complex problems are ones like raising a child. Once you learn how to send a rocket to the moon, you can repeat the process with other rockets and perfect it. One rocket is like another rocket. But not so with raising a child, the professors point out. Every child is unique. Although raising one child may provide experience, it does not guarantee success with the next child. Expertise is valuable but most certainly not enough. Indeed the next child may require an entirely different approach from the previous one. And this brings up yet another feature of complex problems: their outcomes remain highly uncertain. Yet we all know it is possible to raise a child well. It's complicated, that's all."*

(Gawande, 2009: 48-9)<sup>3</sup>

<sup>3</sup> Gawande, A. (2009), *The Checklist Manifesto: How to Get Things Right*, New York, NY: Metropolitan Books.

Dave Snowden, founder of Cognitive Edge, a consultancy, describes how to identify and address different types of problems using a tool called 'The Cynefin Framework'. An overview can be found on YouTube.<sup>4</sup> His suggestions are paraphrased and quoted here:

*"An appropriate way to address simple problems is to identify, codify, share and measure the implementation of 'best practice'. Write a recipe, in other words. Best practice is the correct response to problems in far fewer circumstances than its widespread use suggests. Most problems are not 'simple'.*

*"An appropriate way to address complicated problems is to introduce some analysis into the process or recruit some expertise to make a judgment. In other words, apply 'good practice.*

*"In a complicated environment there are several different ways of addressing a problem, all of which are legitimate if you have the right expertise. Trying to force people to adopt one of them is quite dangerous.*

*"In a complex situation it's unclear what the best thing to do is. The appropriate response is to 'probe'. Experiment with different responses – all the while knowing how to decide if they are successful and worth 'amplifying' or unsuccessful and require 'dampening'."*

So how would one assess the problem of fusion skills development? It would seem that the issue isn't a 'simple' one. Technologies and business models are fast evolving; the link between cause and effect is unclear. Attempting to identify and define best practice is not appropriate. Developing a series of centrally designed courses, modules, interventions or curricula and rolling out identical versions of these across different institutions, industries and geographies is not the answer.

The specific detail of what is right to do is a decision best made by people on the ground at the time. The appropriate response then is to identify **good practice**, and help people to understand what that implies and make local decisions about how to apply it. That is what we attempt to do in this report.

Interestingly the problem of how best to address a particular issue with a fusion approach is a 'complex' one. The correct response is to support people to experiment. Where experiments work, fuel and grow that. Where they don't, note the learning and close them down. But this is **part** of the response to the complicated problem of skills development, an element of the good practice, not an alternative to it.

<sup>4</sup> <http://www.youtube.com/watch?v=N7oz366X0-8>

# 1. THE FUSION CONTEXT

## 1.4. FOCUSING THE FUSION LENS

The desire for industries of all types to want well-rounded graduates as new entrants is nothing new.<sup>5</sup> Generating the benefits of polymath skills and innovation from the fusing of different technologies and industries is also not an issue unique to our age. It has been recurring for decades, perhaps centuries (See Appendix 1).

However, the rapid changes to working practices, business models and creator/consumer relationships<sup>6</sup> that digital technology is stimulating in the creative media industries is unparalleled.<sup>7</sup> The disruptive forces continue with the ubiquity, decreasing costs and increasing firepower of the digital hardware and software tools now used throughout the sector. New roles are being forged<sup>8</sup>, old ones forgotten and everyone continually discovers new sets of required expertise.

The need for the current and future workforce to understand these changes, not just within their own niche but also in the whole of creative media, has never been more pressing: to know how and when to work with other experts; to feel confident in their own understanding and ability in digital technology; to understand the commercial imperative in all that they do, and to communicate, collaborate, evolve and adapt.

As well as trying to identify meaningful definitions of fusion, this report aims to review skills development activities that are trying to help the creative media industries, while acknowledging the changes, challenges and opportunities facing them. It makes an assessment of the options available to develop good practice in supporting the development of:

- Students at undergraduate and postgraduate level;
- Extra-curricular activity for undergraduate and postgraduate students;
- Individuals working within the creative media industries;
- Businesses within the creative media industries.

The approach has been to review a selection of existing courses, programmes and interventions to identify what good practice could look like (Appendix 3) and to interview a broad selection of experts in relevant fields for deeper insights (Appendix 5).

Another lens through which we look at fusion activity is intended impact. So for example, we consider the following questions: Is the intervention designed to increase employability? Economic growth? Knowledge? Is it designed to establish and nurture new businesses? Deepen market penetration for an existing firm? Create the necessary innovation to embark on a new step for an established heavyweight?

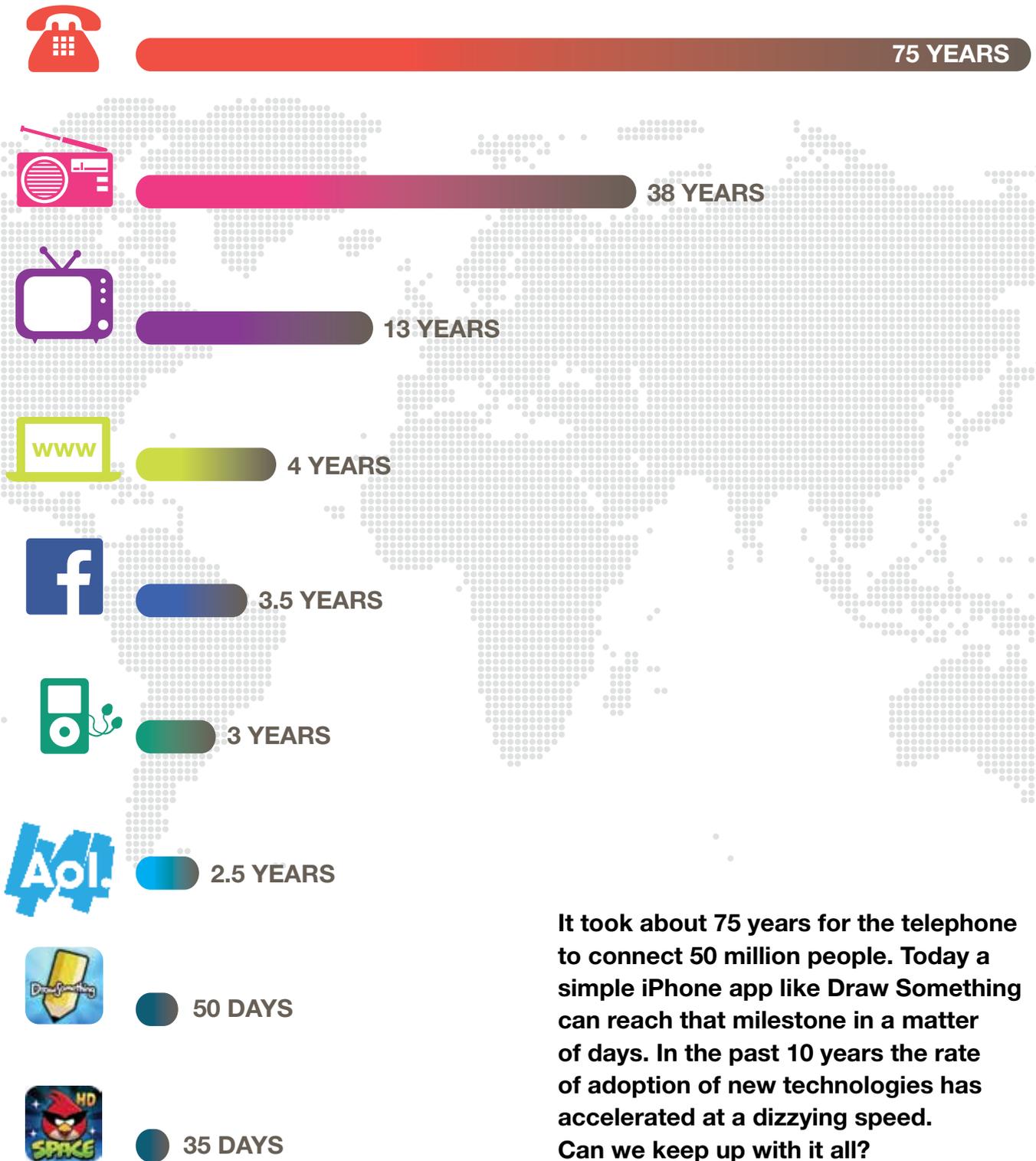
<sup>5</sup> Feibleman, J. K. (1961) 'The Well-Rounded Graduate', *Journal of Educational Sociology*, Vol. 34, No. 9, pp. 417-421.

<sup>6</sup> <http://paidcontent.org/2012/07/31/pc50/>

<sup>7</sup> <http://innovation.gkofiannan.com/radio-took-38-yrs-to-reach-50-million-users-o>, also the origin of the infographic on page 11.

<sup>8</sup> <http://www.themediabriefing.com/article/2013-02-12/job-titles-changing-face-modern-media>

## REACHING 50 MILLIONS USERS



It took about 75 years for the telephone to connect 50 million people. Today a simple iPhone app like Draw Something can reach that milestone in a matter of days. In the past 10 years the rate of adoption of new technologies has accelerated at a dizzying speed. Can we keep up with it all?

## 2. EMERGING THEMES

### 2. EMERGING THEMES

Section 1 described the approach taken to identifying how best to support skills development in the creative media industries in the light of fusion. It explained that the research for this paper was desk-based, backed up with conversations and discussions with experts in the field.<sup>9</sup>

A number of key factors emerged from this, setting the scene for fusion. They are presented here in no particular order, but to serve as a kind of mood board to express the particular characteristics associated with fusion and skills development in the creative media industries.

Section 3 draws these threads together to present a structure for fusion skills development.

#### 2.1. HORSES FOR COURSES

It can be misleading to assume that all of the creative media industries are equal in terms of needs, wants, structures and business models.

This difference creates nuances in education and training – meaning a proposal that is fit for purpose for the computer games industry is not as sensible for, say, the film industry. For example, broadly speaking, computer games courses are those that run with little deviation from the norm – very few options, variable modules or mixing with other courses.

That's not to say that they have no input from other disciplines – far from it – computer games courses are filled with theory from psychology, philosophy, design, art, maths and, of course, coding. But there is a singular focus to the pathway, even at undergraduate level. Students start together at the beginning, learn each and every part as a group, and finish 'oven ready' for work in their chosen profession.

This singular focus has another benefit – according to those interviewed, in any faculty computer games courses have among the highest student satisfaction ratings, the highest employability scores and the lowest dropout rates.<sup>10</sup>

#### 2.2. FUSION? SO OVER IT!

Statement: fusion is the next big challenge for the creative media industries.

In computer games? Well, consider this response:

*"I work in video games, perhaps the leading industry in the world with the most profound fusion of creativity, technology and business, so this isn't such a hot debate for us."*

It would seem that fusion has become such a natural way of operating within the games industry that it is not seen as a priority. Perhaps this is also because of the attitude of most of the people entering the industry. The coder deciding to study at the University of Abertay Dundee is most definitely not picking a degree in computer sciences in the way someone with their eye on a career in another industry – or none – might. They are choosing to make games. As a student and worker they have more in common with the artist who has become their creative director than the kid with whom they went to computer club at school who now works for Barclays.

And this seems to be enough: a common purpose. Because in games companies one doesn't tend to find fused polymaths who code, design and publish. As the executive creative director of a leading Montreal-based games company put it:

*"I've always known that I'm not a businessmen. And that's OK."*

*"I'll tell you how we deal with fusion. When we're making decisions about this company, I'm at the table, and then there's the head of the technology and the guys that deal with business."*

*"We talk about decisions from our own perspectives and listen to the other guys when they do the same. Then we decide."*

<sup>9</sup> See Appendix 5 for contributors.

<sup>10</sup> Universities are not required to publish their 'non-continuation' rates; therefore this anecdotal evidence from some of the contributors (see Appendix 5) cannot be statistically verified.

## 2.3. SOCIAL SKILLS

The development of social skills is rarely formally expressed within an undergraduate curriculum, but there is an increasing focus on soft skills such as communication, presentation and team working. For instance, these skills are all key aspects of Creative Skillset's Tick accreditation criteria.

Social skills are also a focus for the training of naval officers, particularly on how to get along with one another when sharing a cramped, often highly stressful and dangerous environment for long periods of time. The mess table is a focus and officer training involves dinners where anecdotes and shared stories serve as social lubricant and also as a means to spread learning and gauge morale.

What this implies is that it isn't always the formality and rigour of the knowledge transfer mechanisms that count. For instance, Bethnal Green Ventures is a business accelerator that's focused on supporting early stage technology start-up enterprises. The main hub of the 13-week programme is a series of dinners every Monday night where teams get to meet inspiring mentors, swap war stories and refine their own pitches.

## 2.4. DIGITAL VERSUS DIGITAL CONTENT INDUSTRIES

Much of the focus of policy and media in the digital industries has focused on Tech City and the 'Silicon Roundabout'.

It is often referred to as 'a **media** and technology hub'.<sup>11</sup> This creates confusion between the (mainly) digital technology industries that are incubating, start-upping, growing and moving to the Old Street area of London and the somewhat older creative content industry.

The confusion increases when the International Broadcast Centre/Main Press Centre (iCITY) on the Olympic Park is included in a 'Tech City Corridor'.

The confusion is troubling. The tech industries of Shoreditch thrive on very different types of support from the content industries of Soho or Salford.

Incubators, start-up programmes, boot camps and hack-a-thons all have immediate and obvious benefits to many of the 1,200+ digital technology companies in and around Tech City. But it is not a proven success route for the creative content sectors.

Perhaps the reason for this is in supply chains and business models.

Take television production, for example, with its strong historical tradition of commissioning. Without the relationships with commissioners, portfolio of past credits or track record of delivering the content promised, it is difficult to see how a new venture, regardless of how much 'start-up' support it receives, will create enough of an impact to be judged successful.

Without a track record and an address book, how successful will a new advertising company be? The film industry has a well-trodden path of micro/low budget to studio feature.

Some parts of the creative media industries have a structure of sole traders and microenterprises that can deliver to clients and deliver a living to the practitioner, but for these one-man-bands to be successful they need to scale and grow, which usually happens organically over time.

The digital content industries (with the notable exception of computer games, particularly social, mobile and online games) have a fairly high barrier to entry – be that in terms of physical kit needed to create the work, track record to guarantee commissions or pre-existing relationships to conquer or steal existing clients away from established competitors.

Of course these barriers to entry will reduce as digital technology improves and as its impact deepens, but for now it is helpful to keep a distinction between the 'digital technology' industries and the 'digital content' industries – even if they are part of the same revenue stream and have a symbiotic relationship with each other.

<sup>11</sup> [https://www.facebook.com/LondonTechcity?hc\\_location=timeline](https://www.facebook.com/LondonTechcity?hc_location=timeline)

## 2. EMERGING THEMES

### 2.5. THE PARTNERSHIPS WITH THE INDUSTRIES: TRAINING

One way that many educational institutions create immediate strong links with the industries is by partnering with existing industry-specific training companies. This may bring with it some added financial benefits, or at least help share the burden of resources. Ravensbourne works with Four Corners, while Middlesex University with SAE Institute and others, and Nottingham Trent University with Confetti Institute of Technology.

However, these are tough times for creative media industries training companies out there with many ventures not surviving the recent economic conditions. The partners of Middlesex University included Top TV Academy Limited, which was unfortunately dissolved<sup>13</sup> early in 2012.

This highlights a problem for institutions, about how to pick robust and successful partners, about how perilous the paid-for professional training market is, about reputational damage.

### 2.6. PRACTICAL AND ROMANTIC

In order to create the conditions to promote learning about and through fusion, it is as important to consider the practicalities of the commercial and geographical context as the romance of some sexy, successful scheme or facility that's working well in its own setting and environment. White Space in Abertay might seem like the sort of alluring model that one might want to copy elsewhere. However, key to making it work, according to Gregor White, Director of Academic Enterprise at the University of Abertay Dundee, is the quality of the professional organisations involved:

*"Microsoft, Sony, Ubisoft. When these guys want to come in and work with students on live issues that they are facing, the students want to work with them because they are, ultimately, the sort of places that they aspire to work at and it seems like they have something to teach and pass on. If it was the local charity shop wanting a website, no one would turn up."*

The message then is not to try and transplant programmes wholesale but to understand what makes them work and to what degree that can be replicated. White Space wouldn't work as it does in Dundee if it were transplanted to another city similar in every way apart from the presence of a thriving computer games cluster.

### 2.7. MAKE THE SPACE: PHYSICAL AND METAPHORICAL

'Renaissance Man' is often used as a synonym for a polymath.

*"There is a consensus that the Renaissance began in Florence, Italy, in the 14th century. Various theories have been proposed to account for its origins and characteristics, focusing on a variety of factors including the social and civic peculiarities of Florence at the time; its political structure; the patronage of its dominant family, the Medici, and the migration of Greek scholars and texts to Italy following the Fall of Constantinople at the hands of the Ottoman Turks."*<sup>13</sup>

Many of the people we talked with emphasised the need to make the space for fusion projects and skills. Often they were talking about a physical space or event where people come together to work.

Google's Campus provides free Wi-Fi and more or less as much time as you want to hang out and work in its basement. The authors of this report often base themselves there when working in London and see familiar small knots of ever-presents – people running businesses there purely for want of a roof, heating and Wi-Fi. What we also note is the plethora of fantastic opportunities to get one-to-one access to Google experts and associates to help with start-ups, research projects... whatever. And if you want to 'graduate' then you can move upstairs to a slightly more formal arrangement of shared desk space. Or graduate again to dedicated desk space. And of course, the brand helps.

But space also needs to be made in people's professional and academic lives to allow them to pursue the tangential lines of thought and make the serendipitous connections across disciplines that lead to fusion breakthroughs. Tom Chatsworth noted that there is no use creating a fantastic buzzy, cross-discipline workspace at a university if a student's curriculum is so packed that it punishes them for exploring extra-curricular lines of study. Similarly, if the continuing professional development (CPD) for a particular role focuses only on skills and activities that directly relate to that role, how is the developing professional supposed to pick up the cross-disciplinary experience that will help make him or her the fusion leader of the future?

## 2.8. WHAT ARE YOU FUSING?... WHAT HAVE YOU GOT?

One sure-fire way to limit the positive impact of fusion is to stick to a definition of what it includes and, by implication, excludes. For example, from the perspective of the creative media industries, sociology and psychology might seem to be outside of the fusion fold. And yet the use of psychological research into the user experience design of games and websites is growing, as is the involvement of sociologists with social media companies. If someone wants to join the party, their motivation is a good enough clue that they might have something surprising to contribute and you lose more by excluding particular professions or industries than you gain by trying to control the terms of the debate.

## 2.9. T-SKILLS VERSUS T-TEAM

Coined by Dave Roberts of IBM in 2001, T-skills refers to "...a breadth of knowledge, and a depth of understanding". The vertical stroke of the 'T' represents the deep, specific skills an individual has in their specialism; the horizontal denotes the broad understanding of the whole process involved in their sector, as well as some of the core competencies, or soft skills, needed for success.

But perhaps a shift in perspective is needed from a team of Ts to a T-shaped team; time spent on developing the skills needed to work collaboratively and co-operatively with each other, extremely important in the fast-changing world of digital content, when the technologies, and therefore the business models, are all rapidly shifting. Skills more clearly defined than 'empathy'.<sup>15</sup> In particular, the skills of managing the different working practices and terminology, of knowing when to contract in and contract out, of being able to see opportunities, not threats, in all the change.

## 2.10. THE POWER OF DIVERSITY

Fusion also brings to mind the combining of different elements to make something new, something better. By broadening the definition to include all aspects of diversity – ethnicity, gender, socio-economic, nationality, etc. – a fused sector would positively embrace difference within organisations and teams, and could exploit this difference commercially.

Recent research highlights the positive impact of diversity on performance in teams, but it can also unlock new markets, emphasise cultural differences and nuances in content, and bring fresh ideas and thinking to commercial endeavour (Department for Business, Innovation and Skills, 2013).

One contributor said that in order to improve fusion in the creative media industries they would invest in teaching Mandarin to the workforce, helping unlock new markets and opportunities.

<sup>12</sup> <https://www.duedil.com/company/04639654/top-tv-academy-limited>

<sup>13</sup> <https://en.wikipedia.org/wiki/Renaissance>

<sup>14</sup> <http://www.campuslondon.com/>

<sup>15</sup> <http://chiefexecutive.net/ideo-ceo-tim-brown-t-shaped-stars-the-backbone-of-ideo%E2%84%A2s-collaborative-culture>

# 3. DEFINING FUSION

Section 2 explored some of the main themes that arise when talking about the impact of fusion on the creative media industries. This section will suggest a framework that helps to clarify thinking about 'fusion', whilst section 4 will suggest some ways of dealing with it

Given that fusion is seen as different things by different people, how best to describe it?

One approach is to suggest that fusion is the collective name for the effects of disruption at the heart of the creative media industries – a digital technology explosion that shifts, alters or destroys existing workflows, business models and relationships.

By examining this force from different perspectives – that of the individual, the educator, the business leader or the practitioner – a more complete picture is given of what fusion is, what it is doing to the creative media industries and what can be done to harness the changes.

But the four aspects of fusion we describe below are not simply different effects of the same change – they are sometimes complementary, often overlapping, but frequently contradictory and certainly distinct areas of activity.

Based on the research and discussions carried out, our four aspects of fusion are:

- 1** FUSION 1:  
FUSING KEY EXPERTISE, KNOWLEDGE AND EXPERIENCE  
IN INDIVIDUALS
- 2** FUSION 2:  
FUSING INDUSTRY AND HIGHER EDUCATION TOGETHER
- 3** FUSION 3:  
FUSING THE DIFFERENT PARTS OF THE CREATIVE MEDIA  
INDUSTRIES TOGETHER
- 4** FUSION 4:  
CREATING FUSION MANAGEMENT SKILLS

<sup>14</sup> <http://www.campuslondon.com/>

## 3.1

### FUSION 1: FUSING KEY EXPERTISE, KNOWLEDGE AND EXPERIENCE IN INDIVIDUALS

*"HighWire... goes beyond traditional multi-disciplinary approaches by seeking a creative fusion between three key disciplines, namely computer science, management and design... producing a new breed of innovative people... ready to drive radical change in the digital economy."<sup>16</sup>*

Fusion is described here with a person-centric approach, equipping the future and current workers of the creative media industries with technical expertise that is necessary for success.

Much of the activity that happens here is firmly placed in the hands of education. Often undertaken at undergraduate and postgraduate level, the fused disciplines can vary from the specific "computer science, management and design" to the more lofty "art and science".

### WHY IS IT IMPORTANT?

Here is Eric Schmidt at the MacTaggart lecture in 2011, challenging the creative media industries to foster and embrace fusion:

*"You need to bring art and science back together. Think back to the glory days of the Victorian era. It was a time when the same people wrote poetry and built bridges... Over the past century the UK has stopped nurturing its polymaths. There's been a drift to the humanities – engineering and science aren't championed. Even worse, both sides seem to denigrate the other... you're either a 'luvvy' or a 'boffin'.*

*"To change that you need to start at the beginning with education. We need to reignite children's passion for science, engineering and maths... At college-level too, the UK needs to provide more encouragement and opportunity for people to study science and engineering... If the UK's creative businesses want to thrive in the digital future, you need people who understand all facets of it integrated from the very beginning. Take a lead from the Victorians... bring engineers into your company at all levels, including the top."<sup>17</sup>*

In order to thrive amongst (and survive) the technological advances that are happening all around the creative media industries, everyone must understand what those advances are.

But simply understanding them is not enough – the skill of an engineer or a scientist is not just in a deep knowledge of their profession, it is in using research, experimentation and analysis to reach conclusions; testing theories and assumptions until they are proven to be true.

<sup>16</sup> HighWire is a Doctoral Training Centre at Lancaster University <http://www.highwire.lancs.ac.uk/>

<sup>17</sup> <http://www.guardian.co.uk/media/interactive/2011/aug/26/eric-schmidt-mactaggart-lecture-full-text>

## 3. DEFINING FUSION

### 3.1

#### WHY IS IT NOT HAPPENING?

In the UK, the division between art and science happens at an increasingly young age, deepening and widening by the time university education is reached. With the exception of programming, most creative media subjects are taught in the context of an arts faculty. Little opportunity exists for ‘luvvies’ to talk, collaborate and learn with ‘boffins’; a division that is maintained throughout a working career. Hear the words from some of our academic contributors:

*“The raw materials we get from schools are not used to ‘polymath’ thinking – their comfort is found in subject areas with big, clear boundaries.”*

*“Polymath thinking and learning isn’t possible until postgraduate level.”*

*“Our lowest student satisfaction scores and highest drop-outs are in those courses where maximum flexibility and choice is offered – conversely the most satisfied and employable students are from courses where no deviation occurs.”*

#### AREAS TO EXPLORE

Recommendations with regard to the long term sustained effort that is needed to change the UK education system away from subject-based examinations of knowledge are beyond the scope of this report. It is more realistic to focus on activity that can have an immediate and deep impact, particularly at undergraduate level.

The importance of technological change upon students’ subject areas needs to be given more emphasis. Rather than giving students the skills needed for a given role now, imagine what skills will be needed for that role in 5-10 years and aim for that. Take journalism, for example – the modern skills of a journalist in broadcast or print are increasingly technical, from shooting to editing to filing.

The learning from bespoke and small programmes such as HighWire and Hyper Island should also be explored and promoted to courses – though the recent ‘Hyper Island UK’ report (Nesta, 2013) points out the difficulties in the mass roll-out of the key elements of a small-scale and boutique course.

By bringing businesses closer to courses through live projects, co-productions and competitions, students (and their lecturers) will be illuminated about the depth and width of skills needed in any one role, and exactly how much of a team effort creative media is.

Celebrating technology as a tool rather than a threat will instil inquisitiveness and learning for the workforce of tomorrow, rather than fear and paranoia in the professionals of today.

Space, online and physical, is needed to continue this conversation, learning and collaboration amongst peers across all of the creative media industries, where new technologies, business models, and creative ideas can be discussed and debated, where new partnerships can be forged, where new innovation can happen.

## 3.2

### FUSION 2: FUSING INDUSTRY AND HIGHER EDUCATION TOGETHER

*"...we need more projects... to scale up the fusion of universities and businesses to help create the CDIT workforce of the future."*<sup>18</sup>

This aspect describes a desire to fuse together business and educational institutions, for mutual benefit. The industry can gain access to ways of thinking, R&D and innovation; the institutions benefit from closer access to and understanding of the sector, the ability to work on real-world issues, and potentially to gain commercial reward.

Brighton Fuse<sup>19</sup>, a two-year research and development project that will map, measure and assist Brighton's creative, digital and IT (CDIT) cluster, states its aims are to:

*"support mutually beneficial connections between higher education, those engaged in the creation of arts and culture and Brighton's digital technology sector."*

The Creative Industries Council Skillset Skills Group 'Report to the Creative Industries Council' asks to:

*"build stronger partnerships between higher education and the Creative Industries. The partnership between employers and higher education could be a more powerful alliance for supporting innovation in the Creative Industries, and for encouraging the fusion of new technologies and creative practices."*<sup>20</sup>

### WHY IS THIS IMPORTANT?

'Funding for higher education in England for 2013-14: HEFCE grant letter from BIS' states that:

*"We will also want HEFCE to focus the allocation of grant towards activities that support strategic growth aims. In September 2012 we launched the Industrial Strategy, setting out the Government's vision for building the competitive advantage of British industries. This long-term strategic plan for growth will put in place foundations to allow our companies to build and grow in future and ultimately rebalance the economy. Higher education is both an enabler of growth in other sectors and a significant export sector in its own right. We welcome the work the Council is doing to develop an investment programme to support our growth ambitions including support for new and ongoing Catalyst projects."*

*"University collaboration with industry provides a notable competitive advantage for the UK. The World Economic Forum evaluation now ranks the UK as second in the world, ahead of the USA for university-industry collaboration in research and development. It is important that we continue to build on this and that universities and business work ever more closely together."*<sup>21</sup>

<sup>18</sup> David Docherty, Guardian, 8th May 2012 <http://www.guardian.co.uk/higher-education-network/blog/2012/may/08/developing-interdisciplinary-skills>

<sup>19</sup> <http://www.brightonfuse.com/>

<sup>20</sup> [http://cicskills.skillset.org/data/the\\_creative\\_industries\\_council\\_skillset\\_skills\\_group\\_report](http://cicskills.skillset.org/data/the_creative_industries_council_skillset_skills_group_report)

<sup>21</sup> Funding for higher education in England for 2013-14: HEFCE grant letter from BIS, <http://www.hefce.ac.uk/media/hefce/content/whatwedo/fundingandinvestment/fundinginstitutions/annualfundingallocations/grantletter/HEFCE%20Grant%20Letter%202013%20-%20Tim%20Melville-Ross.pdf>

## 3. DEFINING FUSION

### 3.2

It is clear from the Government's strategic direction that higher education is crucial to the future success of the UK economy, and the funds that are held by universities should be used to pursue further economic and industrial growth. A clear mandate is given to universities to support, grow and drive innovation in UK businesses.

The universities and funding bodies involved in Brighton Fuse are urged to find better ways of working with graduate-rich small and medium-sized businesses in the CDIT industries and to prioritise technology-heavy CDIT programmes. By taking a more interdisciplinary approach and working more closely with business, universities can provide high-quality graduates with a range of work skills and the flexibility and knowledge to remain innovative throughout their careers.

The report does not exempt business from playing its part in developing graduates capable of leading the UK's CDIT industries. It calls on employers to collaborate closely with the universities that supply them. It also proposes that industry bodies such as Pact for TV and TIGA for games should promote volunteer schemes through which professionals can work with students and help them develop the employability skills they need for the CDIT jobs market.

### WHY IS IT NOT HAPPENING?

The barriers to successful joint partnership between creative media businesses and higher education are equally high on both sides.

For businesses the make-up of the sector is a significant factor – an overwhelming majority of practitioners work as freelancers and sole traders or in micro and small-to-medium sized enterprises, all of which are too busily focused on the day-to-day running of their companies to concentrate on making new partnerships with universities.

And what would that partnership look like? Positive case studies to publicise successful knowledge transfer are thin on the ground.

And what would they work on? Creative endeavour – whether it's a film, a programme, a game, a publication – is hard to translate into a research brief. In contrast to science, for example, it is harder to see where the pursuit of knowledge through research, rigorous testing and detailed analysis can bring financial rewards.

For the academics the same factors apply. Relationships with industry tend to be with the bigger players, perhaps skewing their perception of the whole sector. There is often a mismatch between the ideals and ambitions of their students and the realities of the industry. Clients and commissions require a certain amount of humility and compromise – more than they are used to.

The lack of obvious track record for them is also a factor – with no strong test cases to demonstrate impact on financial bottom line and curricula reform it is harder to convince faculty and management of the need.

Often those newest to academia, or those with a firm foot still in industry, are the ones driving towards firmer partnerships.

## 3.2

### AREAS TO EXPLORE

But good practice does exist. Companies like Ogilvy have coherent strategies to engage and influence education at all levels. Academic programmes like HighWire and London Fusion are starting to reap rewards of business/education co-working. More promotion of this is needed to both audiences.

More activity that clearly explores and elaborates the benefits to both sides – institution and business – is needed. More promotion and celebrating of successful joint working in the creative media industries will drive more institutions and businesses together to forge successful partnerships.

Institutions gain from a clearer understanding of how a sector works, of more up-to-date knowledge on industry practices and by being rightly able to boast about their links with industry, bringing more student numbers.

Students, too, will start to drive demand for closer links with industry and stronger experience of work as a rising proportion of undergraduates demand more business and entrepreneurial skills from their institutions.

Business could benefit from having a 'live-firing' practice opportunity for their rising talent – creating safe opportunities to try leadership and management. Knowledge transfer can also be explored, collaborating with some of the best brains in design, computing and creativity to solve day-to-day and strategic business problems. Companies involved at such close proximity with an institution can also pick from the best graduates before they even reach the job market.

A bid<sup>22</sup> to HEFCE led by Creative Skillset and Southampton Solent University with eight other partners (Arts University Bournemouth, Birmingham City University, University of Bradford, Norwich University of the Arts, Ravensbourne, University of Salford, Teesside University, and University of the West of England) has pledged to create 27 new degrees with fusion embedded throughout each course. By embedding the fusion of technological, creative and entrepreneurial skills within higher level provision, this proposal aims to train all students to think more entrepreneurially, providing UK companies with more people who can see business potential in creative ideas. It will also identify and develop potential future leaders and managers.

<sup>22</sup> At the time of writing, the outcome of the bid has yet to be confirmed.

## 3. DEFINING FUSION

### 3.3

#### FUSION 3: FUSING THE DIFFERENT PARTS OF THE CREATIVE MEDIA INDUSTRIES TOGETHER

*"The fusion of technology with the creative and digital industries is as vital to the UK's economic growth as that of science, engineering and manufacturing and requires the same level of policy focus."*<sup>23</sup>

Here the goal is to bring together different industries and technologies in order to spark innovation and thereby create economic growth. A sub-set of this strand is the fusion of different parts of the creative media industries – TV programme makers becoming online media producers or radio companies making computer games.

#### WHY IS IT IMPORTANT?

It is in this area of fusion that the disruptive power of technology is most easily amplified. In the space of ten years a mobile phone has become a stills camera, high definition video camera, a games console, a web browser, an email client, a media player, a videoconferencing tool, an ebook reader and a publishing platform. Which of the creative media industries is not affected by the capabilities listed here; either in content creation, production, distribution or the marketing of their services and products?

Disruptive innovation seems like common sense in hindsight but the full ramifications are impossible to predict at the outset. "That new steam engine thingy, let's pop it on a cart and see if we can't get it moving." Goodbye canals. "Could we squeeze a lens into that phone so it can take pictures?" Goodbye Kodak.

*"Couldn't we just publish our game direct to the app store?"*

*"We could just make that film on the road with a couple of cameras and I'll pop the special effects in afterwards myself?"*

*"What if we just publish advertising and marketing briefs on the web and host a global pitch open to anyone with the talent?"*

*"Who are we going to say goodbye to next? Who are we going to need to say hello to?"*

The answer is that no one knows. These are complex evolving situations that it's difficult to make sense of. What are the opportunities and threats? What's happened to business models in other industries that might impact on ours? Is there a breakthrough, tool, trend or technique happening in a parallel sector that has the power to fundamentally shift workflows, routes to market or the very character of the product that my company relies on?

<sup>23</sup> The Fuse – Igniting High Growth for Creative, Digital and Information Technology Industries in the UK, CIHE, <http://www.cihe.co.uk/wp-content/themes/cihe/document.php?file=1009TheFuse.pdf>

## 3.3

### WHY IS IT NOT HAPPENING?

One way to make sense of a complex situation is to gather a group of experts together from different fields and get them to discuss it and learn together. Why isn't this happening across the creative media industries – and beyond?

Learning starts with motivation. Although the threats and opportunities presented by fusion are strong motivators for business leaders, and often strongly felt, the approach of “let's have a speculative chat about things in general with some people from entirely different industries that we don't really understand and see if anything comes from that?” doesn't seem like the most efficient use of management time. This is particularly the case when the economy is generally tighter and companies feel strongly under threat. The inclination is to stick to what you know, make things as lean as possible and crank the handle. So, likewise, if a junior production manager says he wants to spend some company time networking with junior managers from other digital industries, it's difficult to see this investment in the same light as more specific or technical CPD or indeed, business development.

### AREAS TO EXPLORE

If it's difficult to make the case for the ROI of this sort of activity then it's best not to try. The only thing guaranteed to encourage people to think of it as a good investment of time is a positive experience. So the requirement is to create opportunities – spaces – for that experience to happen – a little and often – to allow people to learn new habits for problem solving and creative thinking about their own business and industry from people outside of it.

It may be that the most appropriate person to spot and develop fusion opportunities (and identify threats) isn't sitting around the board table. Younger, more junior staff – digital natives – have a different perspective on how the world works and the fluidity of business models and creative techniques. Perhaps with guidance and inspiration, these are the most appropriate people to explore the margins of the commercial map where the digital dragons lie. At the very least, it would seem hasty to exclude them from the process just because they 'should' be getting on with their career within the four walls of the people paying their wages. Seeing this as part of creative media industries workers' core skills (and part of the 'job') also makes for a fuller, more diverse and exciting career path for the most talented entrants versus the choice of starting up their own company.

Not evaluating an activity exclusively in terms of financial ROI is one thing. Not learning or evaluating anything at all is another. A useful way of capturing value and what works (and to help others to assess if it is of value to them) is for participants to highlight their own learning and feelings once they've taken part.

## 3. DEFINING FUSION

### 3.4

#### FUSION 4: CREATING FUSION MANAGEMENT SKILLS

*"Students come to the d.school from every school on campus, and beyond. The design thinking process becomes a glue that holds teams together, allowing students to unleash intuitive leaps, lateral thinking, and new ways of looking at old problems... our students learn this process together, and then personalize it, internalize it, and apply it to their own challenges."* <sup>24</sup>

Perhaps a contrasting approach to Fusion 1, the main goal of this type of activity is to instil in individuals the core skills of teamwork, communication, leadership and deliberate thinking in order to innovate and problem solve.

#### WHY IS IT IMPORTANT?

Creative media industries, as a title, might for some imply a collection of businesses that have a process for creativity. And certainly that is the case in some sectors. Advertising for one has recognised that an appropriate way to respond to the wave upon wave of change that characterises a fused world is not to lock down a process for dealing with how things are today. Instead, the answer to every question is creativity. The goal is to perfect the creative response to an on-going flood of new communications channels, quicker, cheaper production capabilities and the opportunities and threats of the social and interactive nature of online content.

Similarly, computer games is an industry not locked into any one medium of delivery. Being a 'digital native' industry, a core capability – and competitive advantage – is the ability to re-configure skills and teams to deliver on new platforms via new media. Many mobile games today that cost 69p take as much skill and production effort as console games that cost £50 two years ago. The response of the games industry companies that are succeeding today wasn't to try and reshape the world to comply with business models that demand £50 price tags but to remodel the games and business models to fit what the world expects. The result of this creativity is games like CSR Racing. That isn't even 69p, it's free. It still manages to rake in up to \$12million a month through in-app purchases that make monetisation an integral part of gameplay. Compare and contrast this to the music industry suing (or threatening to sue) customers for, in effect, virally marketing products.

<sup>23</sup> d.school, Stanford, <http://dschool.stanford.edu/our-point-of-view/>

## 3.4

### WHY IS IT NOT HAPPENING?

Members of the creative media industries that traditionally deliver through one medium have, until recently, prospered by continually refining one process – or a series of related ones. While technology has disrupted things in the past, such changes came but once or twice in a career, not once or twice a year. The ‘creative’ has tended to refer to the content, the ‘industry’ to the production and commercial process.

In this context it is easy for the creative process to become the ‘secret sauce’, the mysterious art whose practitioners are referred to as ‘the talent’. It’s difficult for the concept of a replicable, generic creative process that can be adopted by any profession and applied to the whole business of commercialising creativity.

Within creative media industries many trades and crafts are heavily demarcated. Breaking down those silos and mingling the cultures is difficult. To then consider going beyond the boundaries of a particular industry to discover common ground and approaches to creative problem solving and teamwork is an even more difficult concept to take on.

### AREAS TO EXPLORE

In creating fusion management skills, whether the focus is on a particular sector or across a number of creative media industries, there would seem to be three principal issues.

The first is the need to focus on a creative process, not just disparate creative skills or aptitudes. Can a process for creativity or creative thinking be identified that is genuinely effective and generically applicable: able to be learnt by just about anyone that’s motivated to learn, to be applied to any issue, problem, process, trade or craft within the creative media industries (or beyond)? There are many candidates out there. The trick is to find the one(s) that can gain widespread credibility within the target cohort.

The second is to find a home for that process and a way to deliver it that protects its integrity and develops its effectiveness to the benefit of the audience/market it serves. That might be an institution that acts as a physical and spiritual home to the process or a figurehead to champion and personify its effectiveness. Or both. It might take the form of a school or institute, an accredited course of study, or a franchised accredited training scheme.

The third is to focus on the value it delivers to participants and the people picking up the bill for their participation. Can learning the process be intrinsically valuable in its own right by melding training and education with work on real-world issues facing learners and their organisations today? This doesn’t just build credibility but also multiplies the opportunity for active engagement between ‘the process’ and industry.

For example, Xfusion<sup>25</sup> specialises in helping to improve the performance of an organisation dramatically through the individuals within it. Having the right people in a business, who are inspired and motivated, can deliver the highest levels of effectiveness and success. Xfusion delivers leadership and management skills training which leads to performance improvement through people. Their aim is to deliver high impact, multi-sensory training programmes that ensure maximum effect and long-term results.

<sup>25</sup> <http://www.the-x-fusion.co.uk/index.htm>

## 4. RECOMMENDATIONS

The need for rapid and continual change by businesses, education and professionals to adapt to the challenges facing the creative media industries is clear. The disruptive power of digital technology to all parts of the sector is creating threats and opportunities, altering business models, workflows and ultimately the relationship with the consumer (and their money).

And whilst many of these challenges are universally significant to all of the industries, they all need to be recognised, examined, explored and met by each individual part, each reflecting on how the challenges alter their world view, bring new threats and open up different pathways to success.

Creativity, entrepreneurship and technological understanding are vital to this task.

For the creative media industries, first among equals in this list has to be creativity. The clue is in the name. It's where the creative media industries excel and it's the main sustainable skill that can help industries, businesses and individuals deal with whatever opportunity, threat or disruption that fusion throws their way.

This is good news: competitive advantage for the creative media industries in a fusing world. Tina Seelig PhD is a director of d.school and course leader on creativity and innovation at the Engineering School of Stanford University and she says this:

*"Sadly, there is also a common and often-repeated saying, 'Ideas are cheap.' This statement discounts the value of creativity and is utterly wrong. Ideas aren't cheap at all – they're free. And they're amazingly valuable. Ideas lead to innovations that fuel the economies of the world, and they prevent our lives from becoming repetitive and stagnant. They are the cranes that pull us out of well-worn ruts and put us on a path toward progress. Without creativity we are not just condemned to a life of repetition, but to a life that slips backward."*<sup>26</sup>

So, how to drive home this advantage? Creative Skillset can assist in this by creating strategic interventions at key points.

By nurturing future leaders, Creative Skillset will create the conditions to ensure success for the sector. Future leaders who can recognise these challenges

and opportunities, can understand how they and their businesses will overcome and thrive in them and who can work co-operatively and collaboratively with others,

By making constant efforts to bring different parts of the industry together, at all levels, and in all sectors, Creative Skillset will break down the barriers and create conditions for innovation and economic growth to occur.

By tackling this issue at different points in skills and workforce development, Creative Skillset will create growth in mature and established professionals immediately, whilst nurturing and tending the future workforce.

It is recommended that Creative Skillset supports and undertakes a mixture of activity that:

- Builds and celebrates [T-shaped teams](#) and the skills needed to manage them;
- Works with existing business accelerators to create a [digital content start-up boot camp](#), creating a future pool of new ventures that open up opportunities for more traditional content makers;
- Establishes the physical, mental and virtual [space for innovation](#);
- Drives up demand for [collaboration between higher education and industry](#).

In Appendix 3 we explore some scenarios for activity that Creative Skillset might foster. The aim is to illustrate how the activity might manifest itself, expose some of the implications and to foster debate about the scale and nature of the activity required.

These areas are leverage points for change – places where an exponential benefit will be created in relationship to the amount of effort/resource used.

They will also tackle the challenges facing the creative media industries at different levels of seniority within them. They are both high-impact in the short term and will create fertile conditions in the future. They come with easily identifiable partners for delivery and funding.

As well as the goals set out above, a number of guiding principles are also suggested, steering activity in the space(s) of fusion.

<sup>26</sup> inGenius: A Crash Course on Creativity, Tina Seelig.

# 1

## FUSION 1: FUSING KEY EXPERTISE, KNOWLEDGE AND EXPERIENCE IN INDIVIDUALS

- Focus on postgraduates and professional development.
- Design from within one specialism (like HighWire) or clearly defined industry requirement/crossover (like EUCROMA).
- Don't try and build generic 'foundation' studies with no links to the real world.

# 2

## FUSION 2: FUSING INDUSTRY AND HIGHER EDUCATION TOGETHER

- The emphasis is on experience of working together – seeing professionals in action – rather than teaching, talking or guest lecturing.
- Make space for this in the curriculum – don't make it harder to get your qualification if you're spending lots of time on work with professionals.
- Be realistic – don't try and set things up that rely on unsustainable levels of input from industry and a sector that isn't big enough locally.
- Build the win-win. What skills resources does the institution have that are in short supply in the business? What skills does the business wish to 'practice' where students might be guinea pigs?
- Link it to careers and employability. Don't assume that if you build it students will come.
- Show what works. Some businesses are really active and are working deep into the education system locally. Celebrate and promote success to share learning.
- Show what works. Some HE institutions have made a great success of working with local sectors and businesses. Teach others how to make this work – the motivated within HE seem to be few and far between, help them.

## 4. RECOMMENDATIONS

### 3

#### FUSION 3: FUSING THE DIFFERENT PARTS OF THE CREATIVE MEDIA INDUSTRIES TOGETHER

- Don't try and make the case for ROI – it will always be 'different in my industry'.
- Create the opportunity for positive experiences that 'feel' right. Start small to build virtuous circles.
- Don't just focus at the top of the profession – make opportunities for serendipity, networking, entrepreneurship and cross-sector collaboration from early in people's careers – it's here they need most support.
- Don't punish people for getting involved in this – celebrate their creative curiosity. Just like within the undergraduate courses – more junior people have less autonomy so need permission to explore beyond their day job/workstream.
- Make it social, make it fun. Work is not the opposite of play.
- Make it inspirational. Don't just create a space but fill it full of inspirational talkers, trainers and thinkers. Don't make a curriculum but try to challenge people's assumptions about what is 'appropriate training and study' for them. Curate it. This needs a curator.
- Know what's out there. There are lots of weekend boot camps and events aimed at entrepreneurs that fit this category already, why not send staff there? For example, if you work in Soho, join the Hub and get teams to use the facility.
- Don't limit entry to traditional creative media industries.

### 4

#### FUSION 4: CREATING FUSION MANAGEMENT SKILLS

- Work on real problems.
- Make the experience a badge of honour – brand it – Top Gun.
- Have a process – make it replicable, improve it, measure its effectiveness.
- Build it around key faculty and programme leaders – the talent drives the experience.
- Create entries for different students: undergraduates/postgraduates; businesses (sponsors, expertise providers, problem setters); individual professionals (executive education).
- Don't limit participation to traditional creative media industries.

<sup>26</sup> inGenius: A Crash Course on Creativity, Tina Seelig.

# APPENDIX 1 – HISTORICAL PERSPECTIVES

## FUSION: THOROUGHLY MODERN OR OUT OF DATE?

*“Most ancient scientists were polymaths by today’s standards. The organisation and professionalisation of the sciences is a relatively modern phenomenon, having been established only in the nineteenth century, and the word scientist was not coined until 1834...education in antiquity presented what we consider to be different subjects in a much more integrated way.*

*“There is, in my view, no point in calling for people to be trained in both science and history, since real competence in each subject presupposes ability and years of study: it cannot be acquired overnight (as if by fiat) or created simply by training; one needs aptitude, and most people have an aptitude for one subject and not another.”<sup>27</sup>*

## POLYMATHS: BORN OR MADE?

In Wikipedia there is a list<sup>28</sup> of people that have been referred to as a Polymath by ‘reliable sources’. Entrants include ancient Egyptian Imhotep (2650-2611 BC), Aristotle (384 BC-322 BC), Shen Kuo of the Song Dynasty in China (1031-1095), Hildegard of Bingen (1098-1179) and Erwin Schrodinger (1887-1961).

The list spans continents and aeons. It has only 139 entrants. It would seem polymaths are rare (although not as rare as the rather selective list might make out – only four females are recorded and although it finds a place for Steve Jobs it does not for Florence Nightingale).

Mumford and sums – Lewis Mumford, KBE (October 19, 1895 – January 26, 1990)

*“Mumford believed that what defined humanity, what set human beings apart from other animals, was not primarily our use of tools (technology) but our use of language (symbols). He was convinced that the sharing of information and ideas amongst participants of primitive societies was completely natural to early humanity, and had obviously been the foundation of society as it became more sophisticated and complex. He had hopes for a continuation of this process of information ‘pooling’ in the world as humanity moved into the future.*

*“Mumford’s choice of the word ‘technics’ throughout his work was deliberate. For Mumford, technology is one part of technics. Using the broader definition of the Greek tekhnē, which means not only technology but also art, skill and dexterity, technics refers to the interplay of a social milieu and technological innovation – the ‘wishes, habits, ideas, goals’ as well as ‘industrial processes’ of a society.”<sup>29</sup>*

<sup>27</sup> From the Introduction to Greek Science in Context T.E Rihill Retrieved 2012-04-06 <http://fds.oup.com/www.oup.co.uk/pdf/0-19-815248-5.pdf>

<sup>28</sup> [http://en.wikipedia.org/wiki/List\\_of\\_people\\_who\\_have\\_been\\_called\\_a\\_polymath](http://en.wikipedia.org/wiki/List_of_people_who_have_been_called_a_polymath)

<sup>29</sup> [http://en.wikipedia.org/wiki/Lewis\\_Mumford](http://en.wikipedia.org/wiki/Lewis_Mumford)

# APPENDIX 1 – HISTORICAL PERSPECTIVES

## TWO CULTURES BAD

The Rede lecture in 1959 was given by CP Snow and has become most influential. He postulated that intellectual life in the western world was split into two camps, sciences and humanities, and that this split severely hindered progress. He used this anecdote to set up his thesis:

*“A good many times I have been present at gatherings of people who, by the standards of the traditional culture, are thought highly educated and who have with considerable gusto been expressing their incredulity at the illiteracy of scientists. Once or twice I have been provoked and have asked the company how many of them could describe the Second Law of Thermodynamics. The response was cold: it was also negative. Yet I was asking something which is the scientific equivalent of: Have you read a work of Shakespeare’s?”*

*“I now believe that if I had asked an even simpler question – such as, What do you mean by mass, or acceleration, which is the scientific equivalent of saying, Can you read? – not more than one in ten of the highly educated would have felt that I was speaking the same language. So the great edifice of modern physics goes up, and the majority of the cleverest people in the western world have about as much insight into it as their Neolithic ancestors would have had.”*<sup>30</sup>

## LUNAR SOCIETY OF BIRMINGHAM

The Lunar Society of Birmingham was an informal group of scientists, industrialists, engineers, doctors and natural philosophers and intellectuals. It met regularly between 1765 and 1813 and was so named because it would do so monthly, on the afternoon of the Monday nearest the full moon: making the journey home safer in the days before street lighting. The venue would alternate between the homes of members including Soho House in Birmingham, home of Matthew Boulton.

In his 1963 presentation at the Science Museum, Eric Robinson noted:

*“The Lunar society of Birmingham was undoubtedly the greatest of the provincial philosophical societies in eighteenth century England. It was so because its leading members were men of peculiar distinction in a number of scientific and technical fields and because Matthew Boulton’s range of social contacts was so extensive that there was hardly a man of eminence in industry or science unknown to him.”*<sup>31</sup>

The society was very informal with no statutes, mission or aims. The meetings themselves don’t appear to have been so important to its activities as the relationships and correspondence that went on between them.

In his 1966 paper for the Royal Society, Robert Schofield observed:

*“The Lunar Society had no journal of its own; indeed it had no official list of members, no officers, kept no minutes, and, so far as has been discovered had no constitution, set of rules or by-laws.”*<sup>32</sup>

<sup>30</sup> [http://en.wikipedia.org/wiki/The\\_Two\\_Cultures](http://en.wikipedia.org/wiki/The_Two_Cultures)

<sup>31</sup> Eric Robinson, ‘The Lunar Society, its Membership and Organisation’, read at the Science Museum, 1963.

Robinson noted:

*“The informality of the Lunar Society has something peculiarly English about it.”*

*“Of all the provincial philosophical societies it was the most important, perhaps because it was not merely provincial. All the world came to Soho to meet Boulton, Watt or Small, who were acquainted with the leading men of Science throughout Europe and America. Its essential sociability meant that any might be invited to attend its meetings.”*

Members called themselves Lunaticks.

Today, in Australia:

*“The Lunaticks Society of Newcastle is a society of prominent Newcastle digital and social media enthusiasts, entrepreneurs, creatives, app developers, film producers, investors and others wanting to encourage creative thinking and new ideas in a digital world.”*<sup>33</sup>

<sup>32</sup> The Lunar Society of Birmingham; A Bicentenary Appraisal, Robert E. Schofield Notes Rec. R. Soc. Lond. 1966 21, doi: 10.1098/rsnr.1966.0015, published December 1, 1966.

<sup>33</sup> Lunaticks Society about page <http://www.thelunaticksociety.com.au/about/>

## APPENDIX 2 – EXAMPLE PROJECTS FOR CREATIVE SKILLSET TO CONSIDER

These examples build on the recommendations made in section 4. They are intended to illustrate how the good practice identified there and throughout this report might be applied and to foster debate about the value and impact that investment would generate.

### GIVE IT A BOOT

There is currently an explosion in incubator/start-up/boot camp programmes for the digital tech industry. From Bethnal Green Ventures to Wayra, Seedcamp to Springboard (see Appendix 3 for more information), programmes and opportunities are being offered to technical innovators all across the country.

Whilst their differences in scope, attention and structure are large, many share the characteristics of a boot camp – a (relatively) short immersion into business practices, financial know-how and investor-readiness. This is frequently in return for equity in the newly-formed venture – often accompanied by a seed capital investment.

On the whole, these programmes support companies that are exploiting disruptive technology. Some are focusing on products and innovations that also provide a social good.

It is perhaps not feasible to replicate the same type of start-up success in most of our traditional, content-creation creative media industries (see 2.4 Digital versus Digital content industries). The supply chains are too complex, the stakes too high and too risky for angel capitalists to take a punt on a relative newcomer.

However, by focusing on the disruptive platforms and technologies that are more suited to start-up boot camps, growth in the more traditional content creation industries is possible.

By helping build the next generation of technological advances that shift the way content is made economically viable, new business models for those content creators are explored, established and exploited.

Creative Skillset and higher education partners do not have the level of investment needed to establish a programme, the expertise in running an intensive growth programme in this style, nor do they have the contacts with further investors to ensure rapid expansion and success for the start-ups going through the programme.

RECOMMENDATION	IMPACTS	ADDITIONAL BENEFITS
To partner with an existing boot camp provider in order to attract and support start-ups that are disrupting the distribution and monetisation of creative content either as a stand-alone programme or as a selection in a wider cohort. Wayra Telefonica and Springboard would seem obvious candidates for partnership.	Creation and development of new companies exploiting digital technologies in the creative content sector. Creation of new routes to market for existing supply chains in the sector. New jobs. New revenues. Creation of new managers and leaders for the creative media industries who have intensive, first-hand experience of working alongside different technologists and entrepreneurs during the boot camp, and who are practised and polished in understanding new business models and raising investment.	The creation of learning material in the form of notes, videos, hand-outs and case studies that can be distributed to higher education institutions and students. Raising the profile of Creative Skillset in the blossoming tech start-up community.  Raising the profile of digital creative content companies as opposed to digital technology companies, in the overall 'start-up Britain' agenda.

## BEEN THERE, DONE THAT, GOT THE T-SKILLS

It's clear that some parts of the creative media industries have creative collaboration as their business model. Advertising and computer games spring to mind. This doesn't marginalise the role of the creative individual, but teamwork is planned for, celebrated and rewarded.

Other parts come from a history that lionises the visionary, the Svengali, the auteur: not so much tolerating but fetishising the maverick, unreasonable lone creative genius.

In the former, teamwork is an essential element of creativity. A coder can't make a game without an artist – one doesn't serve the purposes of the other, they both need each other to create the final product their creative ambition desires.

In the same way an advertising creative team can't develop an arresting ad that also effectively serves the client's business needs without a planning and/or account team to inform and legitimise the strategy behind the brief and the execution. No one serves at the whip hand of another's creative supremacy.

Therefore, perhaps predictably, we find that advertising and computer games seem to lead the way in collaboration with education to help develop skills in students that make for effective T-teams.

White Space in Abertay is heavily dependent on active collaboration with the thriving games industry ecosystem. There are lots of world-class companies with specific problems to solve. Abertay has a bunch of skilled students who are keen to get real work experience and show their skills to industry contacts.

Ogilvy understands the need to 'industrialise' the collaborative creative process and has seen the need for that to reach deep within the local education system as the first step.

These are relationships between one motivated institution (Abertay, Ogilvy) and a number of local partners (games companies, educational establishments) satisfying a clear common need (solving problems, developing and identifying appropriately skilled entrants).

Of course, there are specific circumstances and drivers that are not present across all creative media industries; these geographic, ecosystem and social links cannot easily be replicated, many to many.

RECOMMENDATION	ADDITIONAL BENEFITS
<p>To develop a 'T-team Experience' that highlights and celebrates the role of collaboration in creativity. This should involve priority creative media industries working with HE establishments and will need to demonstrate clear benefits for the involvement and investment by both sides. Creative Skillset's role will be to validate and promote the process and broker the relationship between industry and HE.</p> <p>How might this manifest itself? TV production companies have a recognised issue in developing the skills of production executives to harness and direct a collaborative process involving a team with skills of increasing diversity. Imagine a three-day creative commercialisation competition where a group of junior production managers and executives work with undergraduates from creative courses to solve a number of known industry challenges.</p> <p>The professionals would be allocated a team and tasks would be randomly assigned: they might involve pure production or may involve wider creative or digital skills (such as a social campaign to promote the output). The professionals would get a chance to practise their skills in a 'safe' environment, although one encouraging innovation and risk taking. Students would get to work with industry professionals on a live current issue.</p>	<p>For the industry, a hothouse experience for their production executives that allow them to experiment with new processes and gain experience of working with a wider base of creative skills. For students, the opportunity to work with industry professionals on real industry problems.</p> <p>Creative Skillset has the opportunity to promote the benefits developing wider T-team skills and to promote the benefits of industry collaborating closer with HE by demonstration rather than persuasion</p>

### TRIBAL GATHERING

A common theme throughout this research has been the importance of space:

- Physical space: designed to be flexible, a blank canvas appropriately equipped with decent Wi-Fi (and coffee).
- Virtual space: common ground made fertile for creative collaboration wherever you might be.
- Mental space: permission and time for experimental collaboration, free from risk, ripe with challenge, support and inspiration.

In the course of researching this report a few facts jump out. Wow facts. Liz Pearson at UEL told us that, across all of the creative courses (not just business and marketing) 80% of entrants said that the goal of their study was to start their own business.

Wow. If anything should strike fear into the hearts of established creative media industries businesses about their ability to attract the most talented creative workers, that's it right there.

And why not? The government loves start-ups. It's making investing in them more attractive than putting your money in a deposit account – with the Seed EIS scheme and other incentives. The drum beating around Silicon Roundabout is something more traditional (wealth and employment generating) creative businesses can only dream of. The business heroes of our day are veterans of start-up culture. Start-ups have their own X-Factor (Dragons' Den) and at the time of writing even David Bowie is being lauded as much for his ability as a serial entrepreneur – promoting the Bowie brand with a mastery of new media – as he is for his music.

Perhaps most pertinent, start-ups have the magic sauce that makes fusion make money.

And start-ups have all the fun. They get to work for free or peppercorn fair-use rents in buzzy inspiring spaces like Hub Westminster and Google Campus surrounded by like-minded energetic peers. Peers in terms of goals, motivations and an approach to life and business that feel familiar but whose skills experience and networks are complementary, not (on the whole) competitive.

The coffee's good (mostly), the Wi-Fi's fast and there are experienced, inspiring people queuing up to teach you stuff that you want to know about for free (or cheaply). There's no curriculum, you learn about what you feel the need to learn about. Or discover learning opportunities for skills you didn't even know you needed or wanted but now realise that you do.

Or, you could go in at the ground floor of an established business with a pre-defined career ladder and a peer group defined primarily by your core skill. Networking is through your industry or trade association so you get to meet other people with a similar job title to you and it's going to be a long time before you can afford a membership at Soho House or the Groucho Club.

RECOMMENDATION	IMPACTS	ADDITIONAL BENEFITS
<p>Connected UK brought together people working at the head of creative businesses in different sectors to explore common points of interest and opportunities. Jointly created by Pact, Ukie, BIMA and the IPA, it was a successful attempt at creating skills development by stealth and fostering cross-sector activity by the back door – all under the guise of interesting talks and discussions.</p> <p>Can Creative Skillsset create a space for professionals lower down that ladder to come together to network, learn, socialise, experiment: the equivalent of a Hub or Google Campus – not for start-ups, but for professionals working in existing businesses in the creative media industries?</p> <p>The space would host courses, talks and events, whose format and content is loose and develops over time, depending on what's wanted and what's available. Because the space isn't owned or born of one particular industry it's a blank canvas for the creative media industries as a whole – and it doesn't define who is and is not a member of the creative media industries. It's defined by who wants to join and attend.</p> <p><b>Call it The New Lunaticks.</b></p> <p>The emerging new market/festival of Soho Create (see above) may well be an ideal launching pad for such an event given its focus on cross-sector work and new business relationships. From there, there could be a move to embrace other geographical hotspots of creative media activity, as well as examining other key events that can be adopted as a 'pop-up' home.</p>	<p>The space will help 'brand' the choice of a career in the creative media industries, helping to tip the balance back from the 'start-up' as the default first choice for graduates.</p> <p>The space will focus effort and funding efficiently. Rather than needing to go out into creative media industries to find talent that is motivated by and has aptitude for fusion working and thinking, this focuses resources and effort on creating one really good space that will attract those talents to it. A flame for the moths.</p> <p>Course provision, support and communications can be focused where they will have the biggest impact: on the most motivated.</p> <p>The space provides the environment for the original combinations of talent that might generate breakthrough practice and business models.</p> <p>Creative businesses will know that their most talented and motivated junior execs are networking and exploring opportunities for new ways to do their job and make money in a rich environment, but can bring those ideas and contacts 'back home'.</p> <p>This isn't about a traditional course – building skills and experience along well-trod paths – but an opportunity to encourage original thinking and take advantage of the energy and serendipity that start-ups benefit from.</p>	<p>What are the creative media industries and what do they have in common? Fusion has a narrower definition if you look at it from within 'established' or 'traditional' creative media industries. But that narrower view blinkers the scope for creative and business opportunity and means that threats heave into view too late.</p> <p>A major benefit of this space or club would be to test continually the possibilities of fusion.</p> <p>Simply those that want to join this club define what fusion is.</p> <p>What that means is what emerges in the space. It's like a petri dish for creative fused activity.</p>

### TEACHING INNOVATION; INNOVATIVE TEACHING

In one version of an ideal world we would be able to influence the curriculum of every creative media industries-related degree so that it included teaching that would help students think in broader fusion terms and work and learn effectively in fused teams.

These course modules would give them the tools, techniques and methodologies for fused thinking and innovation.

But that's not going to happen of course; the scale of ambition is too large.

It might be tempting to scale back the ambition and pick just a few courses and work closely with them to integrate such elements into the curriculum. But what is the motivation for the faculty? They know what they know; their courses are full, why bother? What is the motivation for students? Some of them will be hungry for this learning; some of them would much prefer to stick to their knitting.

### WHAT WORKS?

*"The d.school is a hub for innovators at Stanford. Students and faculty in engineering, medicine, business, law, the humanities, sciences, and education find their way here to take on the world's messy problems together. Human values are at the heart of our collaborative approach. We focus on creating spectacularly transformative learning experiences, and inevitably the innovations follow. Along the way, our students develop a process for reliably producing creative solutions to nearly any challenge. This is the core of what we do."*<sup>34</sup>

And it's not just students at Stanford that work with d.school. d.school works with project partners – industry – to identify the real-world problems that their students tackle. Those project partners are usually d.school alumni or have attended the Executive Education course at d.school because that partnership works best with people who have had previous exposure to d.school thinking and methodology.

What is the glue that holds this package together? There is a philosophy at the heart of d.school and that informs a focused methodology for approaching problems and coming up with solutions. The school teaches the methodology by having students apply it to a problem. They solve that problem but also learn an approach that they can apply again and again.

The approach isn't dissimilar to other successful programs like EUCROMA<sup>35</sup> or Hyper Island – it's about applying a specific process to a problem. EUCROMA differs by being more focused – on animation and games – as such it can work within degrees by granting European Credit Transfer System (ECTS) points to students.

Who is developing a generic approach that supports any and all nascent innovators in the UK creative media industries to make their efforts more effective?

The current efforts of the Technology Strategy Board and the Creative Industries Knowledge Transfer Network show that conversation around innovation in the creative media industries has not yet borne fruit. The intrinsic link between skills and innovation has not been made.

<sup>34</sup> <http://dschool.stanford.edu/our-point-of-view/>

<sup>35</sup> <http://eucroma.dk/>

RECOMMENDATION	IMPACTS	ADDITIONAL BENEFITS
<p>That Creative Skillset explores the opportunity for partnering with a single HE provider in the UK to create a School for Innovators in the creative media industries.</p> <p>The school will require a methodology, a space and a faculty. The faculty might be from academia or industry or both but they need to be experienced in and motivated by developing and applying a process for innovation.</p> <p>Students at the HE institution will be able to apply to take part in a project to tackle a real-world problem and in so doing learn a methodology that they can take back to their own discipline.</p> <p>Industry can get involved by sponsoring one of the projects and also by sending staff to take part in an executive education programme.</p>	<p>This focused effort will develop one proven process that benefits the whole of the UK creative media industries sector. The School for Innovators will benefit all the students at the HE provider who wish to engage – it might even be possible to persuade two or more HE providers to jointly sponsor the school.</p>	<p>A world-class centre of excellence in delivering innovation in the creative media industries. If the UK doesn't have one of these, how can it maintain the current world-class reputation of its creative media industries?</p>

### BACK TO SCHOOL

Part of the challenge around fusion is a lack of coherent and effective joint working between industry and education. A number of themes for the reason have emerged:

- The standard and type of skills and knowledge that employers ask of new entrants is at postgraduate level, and most new entrants are at undergraduate level.
- The difficulties of navigating the rivalries and politics of an HEI are high, therefore making the case for better collaboration is time-consuming and likely to fail.
- There is an inherent difference between the value of output of knowledge-sharing exercises between HE and industry in the creative media industries than in other, more frequently successful Knowledge Transfer Partnership (KTP) areas. What thing of value would be uncovered? Which particular area of knowledge would be furthered?
- The make-up of the sector (microenterprises/SMEs) and oversupply of talent means that many businesses don't see the purpose of engagement. Yet.

No doubt there are others. However, the current funding regime, the rise of HEIs in knowledge transfer and innovation, the continued importance of 'employability' as a key metric for HEIs, and the threat of future new talent being attracted elsewhere means that both sides must now work out a way to work together in collaboration.

RECOMMENDATION	HIGHER EDUCATION
<p>In order to tackle this area it is important to recognise that best practice is not the right approach – the conditions for success for each institution and each company will vary according to their respective sectoral, geographical and resource limitations and opportunities.</p> <p>Therefore, a good practice guide is sought, which recognises that success will depend upon many factors, but gives advice and guidance on how to maximise potential success.</p> <p>There are two prongs to this activity – higher education and industry.</p>	<p>London Fusion is about to embark on a large, ambitious programme of collaboration between HEI talent and SME creative and digital companies (see 3.2).</p> <p>Candidly, the Director of London Fusion recognises that his biggest challenge is not the recruitment of 1000s of small to medium-sized companies to the programme (!); it is in gaining engagement from academic staff and management of HEIs in seeing the benefit of this engagement.</p> <p>London Fusion is working with up to 19 key London HEIs, including providers of many Creative Skillset accredited courses – but also with those that are not.</p> <p>The first part of our recommendation is to work with London Fusion to:</p> <ul style="list-style-type: none"> <li>• identify which academics have more success in convincing their institution to the importance of collaborative working; and</li> <li>• draw together a how-to guide for other academics wishing to work with the creative media industries</li> </ul>
INDUSTRY	IMPACTS
<p>It is rare to find success stories of creative media companies working well with HEIs.</p> <p>However, they do exist. Ogilvy, Saatchi and Twofour are all listed in the directory above. The individual drivers for each of these companies are different, as is the type and scope of activity they undertake.</p> <p>But none of these stories of successful collaboration are well documented or promoted.</p> <p>By showcasing the work that these successful companies do, by rewarding their involvement, and highlighting the business benefits to their wider community, Creative Skillset can help create a greater understanding of how and why businesses collaborate with higher education. Further success stories will be found in successful KTPs such as Brighton Fuse, London Fusion and HighWire.</p> <p>Both these areas need a little more digging and a lot more celebrating.</p>	<p>More businesses and more institutions creating more innovation and improving commercial success. More students being attracted to the right institutions because of these links. Better approaches to knowledge transfer between HE and the creative media industries developed and disseminated.</p> <p>The barriers to fusion exist throughout education and industry. A sticking plaster approach to one part alone will not solve the problem.</p> <p>Instead, a series of calculated interventions are needed to help create growth, foster collaboration and instil the management and leadership qualities needed for today and tomorrow.</p> <p>Fusion of skills in individuals, of businesses and HE, of sectors and the management skills needed to handle it all is the aim. Most activities will impact on more than one area of activity. Most will intervene with more than one level of industry.</p>

## APPENDIX 3 – FUSION ACTIVITY

The following is not an exhaustive audit of all activity that contributes to our four fusion activities. It is not meant to be read as a list of the best either; rather it covers courses, programmes, and activity of interest and note.

NAME	DESCRIPTION	URL
BDW	<p>BDW was created to provide a particular kind of talent for advertising agencies who recognised the pressing need to have integrated teams: people strong in a single skillset—specifically creative, tech, and business – but who also possessed a mindset that would enable them to collaborate across different disciplines.</p>	<p><a href="http://bdw-dev.colorado.edu/about/story/">http://bdw-dev.colorado.edu/about/story/</a></p>
Bethnal Green Ventures	<p>Bethnal Green Ventures is an accelerator programme for people who want to change the world using technology.</p> <p>Each Bethnal Green Ventures programme will incubate ten social ventures teams. During the programme it will help teams focus on three key activities – each phase lasting one month:</p> <ul style="list-style-type: none"> <li>• Design: challenging key assumptions behind the founding team’s idea and testing business models with real users and customers.</li> <li>• Build: producing a product or service with beta users.</li> <li>• Grow: developing a brand and building relationships with people who will pay for or invest in the service.</li> </ul> <p>The main BGV sessions are twelve Monday evenings 6-9pm that include dinner. Sessions will be focused on networking with new people and sharing practical ideas and advice. Each evening will have a different theme and begin with an hour of content based around that theme.</p>	<p><a href="http://bethnalgreenventures.com/">http://bethnalgreenventures.com/</a></p>
Bournemouth University and others – Build your own MA (BYOMA)	<p>Bournemouth University (and others) in this Creative Skillset-led initiative offer a programme of short courses for industry professionals, in partnership with some key players (Sony, BBC Academy, Met Film School, etma).</p>	<p><a href="http://media.bournemouth.ac.uk/">http://media.bournemouth.ac.uk/</a></p>

NAME	DESCRIPTION	URL
Brighton Fuse	<p>Brighton Fuse starts with the belief that by connecting the arts, humanities and design with digital and ICT, then creativity and innovation can be enhanced.</p> <p>It is a two-year research and development project, which will map, measure and assist Brighton's creative, digital and IT (CDIT) cluster.</p> <p>The project will support mutually beneficial connections between higher education, those engaged in the creation of arts and culture and Brighton's digital technology sector.</p>	<a href="http://www.brightonfuse.com">http://www.brightonfuse.com</a>
Collider12	<p>Investments from Collider12 are unashamedly 'B2Brand'. The start-ups have some smart, creative technology that helps the big brands in a big way.</p> <p>Collider12 is designed to put the UK's creativity into the world's hands. The UK creates the best games, music, media, advertising and marketing services in the world. These creative industries need the best technologies if they are to become world class.</p> <p>Collider12 will invest £100,000 into ten B2Brand start-ups in exchange for up to 13% equity.</p>	<a href="http://collider12.com/">http://collider12.com/</a>
Connected Digital Economy Catapult	<p>Connected Digital Economy Catapult will help businesses and researchers to collaborate and to address some of the large and complex challenges facing the UK. It will provide access to testing facilities and demonstrators, and it will co-ordinate and link expertise across the country. The Catapult will encourage new and sustainable ways for digital media and content providers to generate value from their products, help to find ways for whole business sectors to embrace digital services, and help business to take advantage of the opportunities arising from the way information about our environment and physical objects is becoming available in the digital domain.</p>	<a href="https://catapult.innovateuk.org/">https://catapult.innovateuk.org/</a>
Creative Pioneers	<p>Creative Pioneers Challenge is a nationwide search endorsed by UK Government to find the next generation of digital natives and creative entrepreneurs. The Challenge was launched in 2012 to help develop the UK ecosystem for advertising, creative and digital media businesses, and to sustain their global competitive advantage.</p>	<a href="http://www.creativepioneers.co.uk/Home">http://www.creativepioneers.co.uk/Home</a>

## APPENDIX 3 – FUSION ACTIVITY

NAME	DESCRIPTION	URL
d.school	<p>The d.school is a hub for innovators at Stanford. Students and faculty in engineering, medicine, business, law, the humanities, sciences, and education find their way here to take on the world's messy problems together. Human values are at the heart of its collaborative approach. It focuses on creating spectacularly transformative learning experiences, and inevitably the innovations follow. Along the way, students develop a process for reliably producing creative solutions to nearly any challenge. This is the core of what d.school does. Students are enrolled in other degree-granting programmes and take supplementary classes at d.school or are executives who attend one of five annual open-enrolment programmes.</p> <p>Focused on 'design thinking', d.school partners with external organisations often drawn from its alumni or Executive Education programmes to tackle real projects. It describes its evolution as being a "deliberate mash-up of industry, academia and the big world beyond campus".</p> <p>d.school provides a free ninety-minute 'crash course' online for those keen to learn about its methodology prior to participating more formally.</p>	<a href="http://dschool.stanford.edu/">http://dschool.stanford.edu/</a>
Design Thinking Meets Business Thinking	<p>In an exciting new initiative, the Greenwich Peninsula, home to the O2, to Ravensbourne and to an emerging new business and residential community, is embarking on a collaborative association with one of the world's leading educational institutions: Cambridge University. Through a series of virtual and physical events and a mentor scheme, the initiative aims to marry design and entrepreneurship from an early stage, and to the highest level of excellence.</p>	<a href="https://connect.innovateuk.org/web/design-sig/articles/-/blogs/design-thinking-meets-business-thinking">https://connect.innovateuk.org/web/design-sig/articles/-/blogs/design-thinking-meets-business-thinking</a>
Digital Enterprise Greenwich	<p>Digital Enterprise Greenwich is supported by the Royal Borough of Greenwich and the strong presence of the university sector college Ravensbourne.</p> <p>It is "a place where people flow together with ideas, environment and tools to make amazing things happen. The Peninsula is an international exemplar ecosystem where the diversity, density and proximity of people, ideas, environment, infrastructure and technologies facilitate business growth and innovation. The unity of forward facing higher education, local government, private sector business and development corporation provide the perfect community and conditions for future digital knowledge, inspiration, commerce and skills to stimulate a sustainable and prosperous future for this strategic London location."</p>	<a href="http://digitalenterprise.uk.com/">http://digitalenterprise.uk.com/</a>

NAME	DESCRIPTION	URL
Dot Forge Accelerator	Sheffield-based start-up accelerator for “start-ups who are developing products, apps and services that take full advantage of the cloud ecosystem to build scalable businesses with a global market.”	<a href="http://dotforgeaccelerator.com">http://dotforgeaccelerator.com</a>
Ed Vaizey champions Creative England’s business investment awards	The £1m funding spread across the 13 companies is in the form of interest-free loans matched by company funds that allow creative businesses to develop new content and applications for a variety of markets from entertainment to e-learning.	<a href="http://www.creativeengland.co.uk/index.php/2013/ed-vaizey-champions-creative-englands-business-investment-awards/">http://www.creativeengland.co.uk/index.php/2013/ed-vaizey-champions-creative-englands-business-investment-awards/</a>
EUCROMA	<p>EUCROMA is an international training programme in development of cross/transmedia projects, which integrate digital animation and games. The high-intensity programme delivers 30 European Credit Transfer System (ECTS) points in the spring term.</p> <p>The training brings together talented European students to learn key development methods and innovative collaboration routines. There is no strict recipe for what media types can be included in a cross/transmedia production. But blending digital animation and games is one of the most effective combinations.</p> <p>EUCROMA is the educational breeding ground for valuable ideas and innovative collaboration routines aimed at that exact blend. The outcome is a breed of cross-media professionals who can capture the new opportunities and package them as “ready to roll” projects. A breed that could include you if you are passionate about working internationally, can juggle multiple creative processes and are ready to challenge all you have learned so far.</p>	<a href="http://eucroma.dk/">http://eucroma.dk/</a>

## APPENDIX 3 – FUSION ACTIVITY

NAME	DESCRIPTION	URL
<p>Falmouth and Twofour Productions</p>	<p>Twofour Productions is “an international award winning factual, features &amp; entertainment television producer and digital agency rolled into one, with offices in the UK, US and Abu Dhabi. In the last year, Twofour produced over 200 hours of original broadcast programming across all major UK broadcasters, from provocative documentaries to studio comedy and entertainment, ambitious fixed rig to slot-winning features formats.”</p> <p>The Twofour relationship with Falmouth is strong:</p> <ul style="list-style-type: none"> <li>• Twofour Broadcast Pitch – an opportunity to respond to a brief set by Twofour’s Development Team. The best pitches win work experience.</li> <li>• Twofour Digital Multiplatform Pitch – an opportunity to pitch multiplatform ideas. The winning team receives work experience with the appropriate team in London. Twofour Broadcast offers two bursaries of £1,000 each for a four-week work placement.</li> </ul> <p>Twofour also has taken on a Digital and Creative Media Apprentice.</p>	<p><a href="http://www.falmouth.ac.uk/151/news-from-falmouth-university-5/media-releases-47/falmouth-endorsed-by-skillset-as-having-some-of-the-very-best-media-courses-in-the-uk-5074.html">http://www.falmouth.ac.uk/151/news-from-falmouth-university-5/media-releases-47/falmouth-endorsed-by-skillset-as-having-some-of-the-very-best-media-courses-in-the-uk-5074.html</a></p>
<p>Futurelearn</p>	<p>Futurelearn will bring together a range of free, open, online courses from leading universities, in the same place and under the same brand.</p>	<p><a href="http://futurelearn.com/">http://futurelearn.com/</a></p>
<p>Goldsmiths Film Hack</p>	<p>University of London teamed up with world-renowned advertising agency M&amp;C Saatchi, and industry pioneers Google, YouTube and Motorola, to host a 48-hour event dedicated to creating and publicising short films.</p> <p>Six film crews, comprising creatives from M&amp;C Saatchi, students from the Department of Media and Communications and the Institute for Creative and Cultural Entrepreneurship (ICCE), and supported by mentors from YouTube and Google, had just two days to demonstrate their creative filmmaking skills to create a chapter of a short film.</p> <p>Each team made their film using two Motorola Android mobile devices, lights and a laptop. Students from the Department of Theatre and Performance featured in each of the films. The teams uploaded their videos to YouTube with two weeks to self-promote their films, drive views and win the judges’ favour.</p>	<p><a href="http://www.close-upfilm.com/2012/06/mc-saatchi-partners-with-goldsmiths-and-youtube-in-48-hour-filmhack-challenge/">http://www.close-upfilm.com/2012/06/mc-saatchi-partners-with-goldsmiths-and-youtube-in-48-hour-filmhack-challenge/</a></p>

NAME	DESCRIPTION	URL
Hyper Island	<p>Hyper Island emerged in 1996 in Sweden, from the vision of three multimedia pioneers spanning commercial and academic worlds as a private learning institution that could prepare people for the lightning-fast pace of the modern workplace. Now operating in Stockholm, Karlskrona, New York and London, it has two main areas of focus: student programmes which immerse young talent in intensive learning experiences from digital art direction to ecommerce to data strategy; and executive programmes, enhancing the understanding of professionals already engaged in relevant sectors.</p> <p>Its six guiding principles are: Learn for Life; Real World Ready; Lead the Change; Seize Your Potential; Team is Everything; Change the World.</p>	<a href="http://www.hyperisland.com/">http://www.hyperisland.com/</a>
KaosPilots	<p>KaosPilots provides both a school programme and offers consultancy to companies, NGOs and public organisations.</p> <p>The school programme is a three-year long education where the focus lies upon learning by doing through client assignments, from entrepreneurs, consultants and thought leaders.</p>	<a href="http://www.kaospilot.dk/">http://www.kaospilot.dk/</a>
Lancaster University – Highwire	<p>HighWire is a Doctoral Training Centre (DTC), located at Lancaster University, funded through the RCUK Digital Economy programme via a grant of just over £5.9m, which supports the training of 50 PhD students over a five-year period. The aim of the overall Digital Economy programme is to investigate the novel design or use of information and communication technologies to help transform the lives of individuals, society or business.</p> <p>The emphasis is on producing a new breed of innovative people who understand and are able to advance the state of the art in technical, design and business innovation: innovative people prepared to work in challenging roles in organisations and ready to drive radical change in the digital economy.</p> <p>HighWire closely aligns with the needs and goals of business and industry to ensure the relevance of its programme and to encourage technology exchange and early adoption of emerging technologies, processes and ideas.</p>	<a href="http://www.highwire.lancs.ac.uk/">http://www.highwire.lancs.ac.uk/</a>

## APPENDIX 3 – FUSION ACTIVITY

NAME	DESCRIPTION	URL
London City Incubator (LCI)	<p>LCI accelerates the launch of innovative products and services into the market by engaging Cass Business School’s MBA and other LCI Associates who have the necessary technical and commercial skills and the potential to become the managers and directors of the future.</p> <p>It focuses primarily but not exclusively on high-growth sectors, including:</p> <ul style="list-style-type: none"> <li>• Clean Technology;</li> <li>• Medical Devices;</li> <li>• Digital Media.</li> </ul>	<a href="http://www.city.ac.uk/lci">http://www.city.ac.uk/lci</a>
London Fusion	<p>London Creative and Digital Fusion is a tailored programme of interactive and in-depth support. It is for London-based small or medium-sized companies that would describe themselves as creative or digital.</p> <p>It offers to help eligible SMEs to identify business opportunities to help attract new customers, help with planning and realising new opportunities, and help to find additional financial resources.</p> <p><i>“We have a three-point plan to help you achieve all you can: inspire, fuse, and create. We do this by hosting talks and events with inspiring speakers, by providing networking and collaboration opportunities with other SMEs, and providing access to experts on emerging trends. We can give you pragmatic advice and dedicated support to help you develop, appraise and implement business and project plans. We also provide vouchers for 3-6 months projects which will give you access to student resource, academic time, and university resources from a network of 19 higher education institutions.”</i></p>	<a href="http://www.londonfusion.org.uk/">http://www.londonfusion.org.uk/</a>
Ogilvy Ideas Foundation	<p>Ideas Foundation is an Ogilvy project to help “unlock the creativity of 14-18 year-olds whose creativity has been overlooked by our exam-focused school system”. The stated goal is so see a “radical change in the level of diversity within the communication industry”. Ogilvy provides office space, £5000 in sponsorship, hosts two workshops a year and then mentors two work experience students per quarter.</p>	<a href="http://www.ideasfoundation.org.uk/index.html">http://www.ideasfoundation.org.uk/index.html</a>

NAME	DESCRIPTION	URL
Onedigital	<p>Onedigital is a dynamic and independent network that harnesses the economic strength of the UK's key digital hotspots that came together to meet the need for business to have immediate access to focused industry knowledge and expertise.</p> <p>Onedigital facilitates creative collaborations and digital partnerships to drive innovation and economic success. Its members are the digital, technology and creative businesses that can spearhead growth for UK plc.</p> <p>Onedigital's core members are Bristol Media, Manchester Digital, d-media Network Ltd (previously South East Media Network), and Brighton-based Wired Sussex, all respected in the creative industries landscape with over 30 years' experience as industry-led associations representing over 5,000 enterprising companies.</p>	<a href="http://onedigital.org/">http://onedigital.org/</a>
onedotzero_cascade	<p>onedotzero_cascade is onedotzero's award-winning education platform that aims to develop a new model for creative collaboration and innovation across diverse disciplines to foster personal and professional development.</p> <p>Cascade champions collaboration and multi-disciplinary project development through a series of workshops and activities led by some of onedotzero's most innovative partners, creators and featured artists. Cascade has built a reputation for offering inspiration and insight, practical advice and first-hand experience in a fun and energetic environment. This is a unique education programme that challenges existing educational models, processes and formats. Cascade looks to foster personal and professional development in those who are about to embark on a career in the creative and cultural industries.</p>	<a href="http://www.onedotzerocascade.com">http://www.onedotzerocascade.com</a>
Ravensbourne and Ogilvy – a special relationship	<p>Ravensbourne and Ogilvy have a 'special relationship' stretching back four years. The relationship has resulted in speed dating between Ravensbourne students and key managers within the business, dozens of internships and work placements, and an increasing number of new recruits.</p>	<a href="http://www.youtube.com/embed/RnVTZ_jWOG?feature=player_detailpage">http://www.youtube.com/embed/RnVTZ_jWOG?feature=player_detailpage</a>

## APPENDIX 3 – FUSION ACTIVITY

NAME	DESCRIPTION	URL
Ravensbourne Enterprise and Innovation Centre	Enterprise and Innovation Centre is a place for the college to work with industry. It runs events, hires out space, provides CPD courses for practitioners, leads on project briefs, internships and collaborations on behalf of Ravensbourne.	<a href="http://www.rave.ac.uk/">http://www.rave.ac.uk/</a>
Ravensbourne Penrose Market	<p>Penrose Market is...</p> <p><i>“a fantastic shopping experience selling one-off products that would make the perfect Christmas gift. Hundreds of items will be on sale including bespoke jewellery, custom-made bags and accessories, vintage items, hand-crafted cards, and survival kits, just to name a few. It is definitely a must see for any savvy London shopper looking to nab great designer products at a student price.”</i></p> <p>Planned, managed and executed by the students of Ravensbourne, the aim of this market is to showcase its creative talent as an institution and as innovators. In 2011, the market also featured an industry trade show where student-run companies had the opportunity to pitch their services to professionals seeking new talent to create amazing work for their business.</p>	<a href="http://www.penrosemarket.co.uk/what-is-penrose-market/">http://www.penrosemarket.co.uk/what-is-penrose-market/</a>
Seedcamp	<p>Seedcamp companies join our intensive year-long programme focusing on all the aspects of a company's development. These include:</p> <ul style="list-style-type: none"> <li>• The Seedcamp team's time and commitment to the company on a weekly basis;</li> <li>• Social events and lunches on a monthly basis;</li> <li>• Learning Days;</li> <li>• A USA trip, held twice a year, for when the company is ready;</li> <li>• Seedcamp Week Demo Day;</li> <li>• A 'Founders pack' (with a value of up to €50,000) of free or reduced rate services;</li> <li>• Seedcamp's standard investment is €50,000 for 8-10% of the company.</li> </ul>	<a href="http://www.seedcamp.com/">http://www.seedcamp.com/</a>

NAME	DESCRIPTION	URL
Springboard	<p>Springboard combines investment capital with an intensive 13-week mentor-led accelerator programme. Whilst the Springboard programme is based at Google Campus in London and ideaSpace in Cambridge, it is aimed at ambitious and scalable early stage businesses from both UK and overseas. In addition to fantastic office space, Springboard also provides seed capital, over \$150k of free services, and most importantly on site, one-to-one support from over 100 high calibre experienced entrepreneurs and investors throughout the programme plus access to a wider network of mentors and partners. Springboard ends with an Investor Day where the teams present their propositions to an audience of Angel Investors and Venture Capitalists.</p> <p>Annually, Springboard invests in over 30 companies with founder friendly investment terms for between 3-6% equity stake in the business. Historically, over half of the companies that participate in the programme raise additional investment funding, with alumni teams around the world.</p>	<a href="http://springboard.com/programme">http://springboard.com/programme</a>
The Centre for Digital Entertainment (CDE)	<p>CDE is a new collaboration between the University of Bath, Bournemouth University and a host of industry partners across the computer animation, games and visual effects industries. It will:</p> <ul style="list-style-type: none"> <li>• develop an interdisciplinary and multidisciplinary culture;</li> <li>• blur the boundaries of disciplines;</li> <li>• create pedagogic and research innovation in these spaces;</li> <li>• invigorate demand in engineering and computing;</li> <li>• develop the economic impact of art and design.</li> </ul>	<a href="http://digital-entertainment.org/">http://digital-entertainment.org/</a>
The Space	<p>The Space project is designed to make great arts available to a much larger audience across the UK, on a range of digital platforms. It's been built to develop the digital skills and capability of the arts and cultural sector – currently only about four per cent of the hundreds of organisations funded by the Arts Council are creating and producing high quality digital content for a variety of platforms.</p>	<a href="http://thespace.org/">http://thespace.org/</a>

## APPENDIX 3 – FUSION ACTIVITY

NAME	DESCRIPTION	URL
Unistats	Unistats is a fantastic resource for students, parents, teachers and Creative Skillset. It includes official data on each university and college's satisfaction scores in the National Student Survey, jobs and salaries after study and other key information for prospective students.	<a href="http://unistats.direct.gov.uk/">http://unistats.direct.gov.uk/</a>
University of Abertay – Dare to be Digital	<p>Dare to be Digital is a video games development competition for extremely talented students at universities and colleges of art.</p> <p>Teams of five students, usually a mix of artists, programmers and audio, assemble at Abertay University for nine weeks during June to August to develop a prototype video game, receiving mentoring from industry. The students also receive a weekly stipend of £150 per student, free accommodation at the university's halls of residence and a team budget of £200.</p>	<a href="http://www.daretobedigital.com/">http://www.daretobedigital.com/</a>
University of Abertay – School of Arts, Media and Computer Games	The School of Arts, Media and Computer Games has been in White Space since it opened. Undergraduate and postgraduate students share teaching and learning space with lecturers and local businesses. This unique learning environment ensures students gain confidence, critical thinking and problem solving techniques in real working environments.	<a href="http://www.abertay.ac.uk/studying/schools/amg/">http://www.abertay.ac.uk/studying/schools/amg/</a>
University of Abertay – White Space	The facility called White Space blends creative academic activities with technical support and commercial outreach to create a knowledge-driven environment that directly benefits Abertay's students and staff, as well as the local business community and a wide range of external organisations.	<a href="http://www.abertay.ac.uk/about/facilities/whitespace/">http://www.abertay.ac.uk/about/facilities/whitespace/</a>

NAME	DESCRIPTION	URL
University of Salford Manchester Creative Hive	<p>Creative Hive – an interesting virtual showcase for creative endeavours.</p> <p><i>“Creative Hive is a collective based at the University of Salford whose goal is to provide real-world opportunities and connections between people in education and industry. Creative Hive provides a means for people of any discipline and from anywhere to showcase their work and form new connections both digitally at <a href="http://www.creativehive.org">www.creativehive.org</a> and in person at these live events.”</i></p>	<a href="http://www.salford.ac.uk/mmp/courses/subjects/creative-media">http://www.salford.ac.uk/mmp/courses/subjects/creative-media</a>
Venture Lab	<p>Venture Lab is one of the primary platforms used by Stanford University to offer free online courses. Venture Lab’s philosophy is to make online courses more fun and engaging by making them more experiential, interactive, and collaborative. On its platform, access is provided not only to lectures by Stanford professors, but also the capacity to form teams with people around the world and work on projects that have an impact.</p>	<a href="https://venture-lab.org/">https://venture-lab.org/</a>
Wayra	<p>Wayra, which means ‘wind’ in Quechua, was born with the aim of becoming an accelerator for the development of future Silicon Valleys in the countries where Telefónica is present. Created in Latin America in April 2011, Wayra aspires to identify ideas with the greatest potential in ICT and to boost their development, providing them with the technology, mentoring and financing they need.</p> <p>After selection, projects get US\$30,000-70,000 based on the project assessment in terms of its maturity and need. In exchange, Wayra receives a stake in the company.</p> <p>Wayra has run in the UK, with 19 companies going through the programme.</p>	<a href="http://uk.wayra.org/en">http://uk.wayra.org/en</a>
Wired Sussex	<p>Wired Sussex is a Brighton-based membership organisation for companies and freelancers operating in the digital, media and technology sector in Sussex, UK. It works to help its members to create, innovate and grow.</p>	<a href="http://www.wiredsussex.com/Projects.asp">http://www.wiredsussex.com/Projects.asp</a>

## APPENDIX 4 – FURTHER READING LIST

NAME	DESCRIPTION
9 job titles changing the face of modern media business	What are the most innovative and important new job roles that are reshaping the media world?
A Creative Block? The Future of the UK Creative Industries	The creative industries have rightly been celebrated as a UK success story. But have the recession and global industry change – including convergence, digitalisation, and international competition – eroded their ability to stay ahead, both within the UK and internationally?
Achieving Industry Best Practice	Creative Skillset brought educators and industry together to learn how to embed industry practice into courses and discuss best practice with each other.
Action Plan for Change	Creative Scotland Plan for Change.
Agile development may be taught in Australian schools	The Australian Curriculum Assessment and Reporting Authority (ACARA) has released its long-awaited draft Technologies curriculum for students from kindergarten to year 10 (Australian secondary schooling ends in Year 12), and the draft offers hope to those who want kids to be taught heavyweight IT skills.
Boris Johnson gives start-ups £22 million boost with new growth fund	The Mayor's new London-focused fund will buy up stock in early stage businesses, focusing on the creative industries, the 'digital economy', leisure, education and healthcare
BrightonFuse: Towards a progressive learning model for the CDIT sector in Brighton and Hove	An analysis of pioneering international institutions for creative learning.
CIHE Creative, Digital and Information Technology Industries Task Force	The Creative, Digital and Information Technology (CDIT) Industries Task Force was launched by CIHE to focus on the ways in which universities and businesses can better collaborate. Leading business and higher education executives joined the task force to help resolve some of the most intractable challenges we face within the digital, creative and IT economies.
Creative Futures Training the next generation in the creative industries	In May 2011, Escape Studios surveyed 250 UK creative professionals, looking at how important training was to their career progression.
Creative Industries Technology Strategy 2009-2012	The vision of the Technology Strategy Board is for the UK to be a global leader in innovation and a magnet for innovative businesses, where technology is applied rapidly, effectively and sustainably to create wealth and enhance quality of life.
Education, globalisation and the knowledge economy	

AUTHOR	DATE	URL
The Media Briefing	Feb 13	<a href="http://www.themediabriefing.com/article/2013-02-12/job-titles-changing-face-modern-media">http://www.themediabriefing.com/article/2013-02-12/job-titles-changing-face-modern-media</a>
The Work Foundation		<a href="http://www.theworkfoundation.com/assets/docs/publications/277_a%20creative%20block.pdf">http://www.theworkfoundation.com/assets/docs/publications/277_a%20creative%20block.pdf</a>
Creative Skillset	Feb 13	<a href="http://storify.com/skillsetssc/achieving-industry-best-practice">http://storify.com/skillsetssc/achieving-industry-best-practice</a>
Creative Scotland	Mar 13	<a href="http://www.creativescotland.com/sites/default/files/editor/Action_Plan_for_Change_March_2013_v1-1.doc">www.creativescotland.com/sites/default/files/editor/Action_Plan_for_Change_March_2013_v1-1.doc</a>
The Register	Feb 13	<a href="http://www.theregister.co.uk/2013/02/20/australian_draft_high_school_curriculum_includes_agile_development/">http://www.theregister.co.uk/2013/02/20/australian_draft_high_school_curriculum_includes_agile_development/</a>
London Evening Standard	Apr 13	<a href="http://www.standard.co.uk/business/business-news/boris-johnson-gives-startups-22-million-boost-with-new-growth-fund-8564013.html">www.standard.co.uk/business/business-news/boris-johnson-gives-startups-22-million-boost-with-new-growth-fund-8564013.html</a>
James Byford	Jun 12	<a href="http://www.brightonfuse.com/wp-content/uploads/2012/10/Towards-a-progressive-learning-model-for-the-CDIT-sector-in-Brighton-and-Hove-by-James-Byford1.pdf">http://www.brightonfuse.com/wp-content/uploads/2012/10/Towards-a-progressive-learning-model-for-the-CDIT-sector-in-Brighton-and-Hove-by-James-Byford1.pdf</a>
CIHE		<a href="http://www.cihe.co.uk/category/taskforces/cdit-task-force/">http://www.cihe.co.uk/category/taskforces/cdit-task-force/</a>
Escape Studios	May 11	<a href="http://www.escapestudios.com/assets/Uploads/june-2011/Creative-futures-report-v4-low-res.pdf">http://www.escapestudios.com/assets/Uploads/june-2011/Creative-futures-report-v4-low-res.pdf</a>
Technology Strategy Board	Sep 09	<a href="http://www.innovateuk.org/_assets/pdf/corporate-publications/creative_industries_strategy.pdf">www.innovateuk.org/_assets/pdf/corporate-publications/creative_industries_strategy.pdf</a>
TLRP		<a href="http://www.tlrp.org/pub/documents/globalisationcomm.pdf">http://www.tlrp.org/pub/documents/globalisationcomm.pdf</a>

## APPENDIX 4 – FURTHER READING LIST

NAME	DESCRIPTION
Employers must help universities deliver interdisciplinary skills	Employers increasingly need staff with a wide range of skills, but it's not the responsibility of universities alone to develop interdisciplinary talent.
Game jam	The Royal Society is inviting talented games development studios to work with the scientists behind this year's Summer Science Exhibition, a showcase of some of the best scientific research being undertaken in the UK.
Hyper Island Report	This report was commissioned by Nesta to understand the specific features of the Hyper Island approach and whether these provide improved employment opportunities for its students. It has followed the journey of 16 of the students (aged 18-24) from the UK through the programme.
The Fuse	Igniting High Growth for Creative, Digital and Information Technology Industries in the UK.
Innovation, Creativity and Entrepreneurship in 2020	To achieve recovery, Britain has no choice but to create a balanced and sustainable knowledge economy by 2020 and therefore must devise new ways of intervention to achieve change. The quest is on for policy levers that can deliver changed behaviour as effectively but more cheaply.
Mind The Gap When It Comes To China	London's Silicon Roundabout community doesn't seem to have a clue about China.
Next Gen.	Transforming the UK into the world's leading talent hub for the video games and visual effects industries
Red Bull seeks applicants for Amplifier start-up initiative	Red Bull Amplifier plugs innovative, creative, change-the-face-of-music start-ups directly into any or all of its music properties and channels so that they can maximise their audience and reach their potential.
Reinventing Education To Teach Creativity And Entrepreneurship	It's not necessary to memorise things any more, but teachers are still needed to guide students towards learning the best ways to problem solve. The question is: How can that be measured?
Report to the Creative Industries Council	The Creative Industries Council Skillset Skills Group was convened by Creative Skillset and tasked by DCMS, BIS and the Creative Industries Council to examine the skills issues facing the UK's creative industries and to report back with recommendations. It is one of three sub-groups of the Creative Industries Council.
Technology and Innovation Futures: UK Growth Opportunities for the 2020s	Technology and Innovation Futures is a forward look at a range of developments which have the potential over the next 20 years to support sustained economic growth in the UK. Based on interviews and workshops with 180 representatives from industry, research, international institutions and social enterprises, the report identifies 53 technologies which are likely to be important to the UK in the 2020s.

AUTHOR	DATE	URL
David Docherty, Guardian	May 12	<a href="http://www.guardian.co.uk/higher-education-network/blog/2012/may/08/developing-interdisciplinary-skills#box">http://www.guardian.co.uk/higher-education-network/blog/2012/may/08/developing-interdisciplinary-skills#box</a>
The Royal Society	Mar 13	<a href="http://royalsociety.org/summer-science/2013/game-jam/">http://royalsociety.org/summer-science/2013/game-jam/</a>
Nesta	Mar 13	Mar 13 <a href="http://www.nesta.org.uk/areas_of_work/creative_economy/hyper_island/assets/features/hyper_island_uk">http://www.nesta.org.uk/areas_of_work/creative_economy/hyper_island/assets/features/hyper_island_uk</a>
CIHE	Sep 10	<a href="http://www.cihe.co.uk/wp-content/themes/cihe/document.php?file=1009TheFuse.pdf">www.cihe.co.uk/wp-content/themes/cihe/document.php?file=1009TheFuse.pdf</a>
The Work Foundation	Mar 10	<a href="http://www.theworkfoundation.com/Reports/241/Innovation-Creativity-and-Entrepreneurship-in-2020">http://www.theworkfoundation.com/Reports/241/Innovation-Creativity-and-Entrepreneurship-in-2020</a>
Forbes	Feb 13	<a href="http://www.forbes.com/sites/rebeccafannin/2013/02/17/mind-the-gap-when-it-comes-to-china/">http://www.forbes.com/sites/rebeccafannin/2013/02/17/mind-the-gap-when-it-comes-to-china/</a>
Nesta	Feb 11	<a href="http://www.nesta.org.uk/library/documents/NextGenv32.pdf">http://www.nesta.org.uk/library/documents/NextGenv32.pdf</a>
Red Bull		<a href="http://www.redbullamplifier.com/">http://www.redbullamplifier.com/</a>
FastCoExist	Jan 13	<a href="http://www.fastcoexist.com/1679771/reinventing-education-to-teach-creativity-and-entrepreneurship">http://www.fastcoexist.com/1679771/reinventing-education-to-teach-creativity-and-entrepreneurship</a>
Creative Industries Council Skillset Skills Group	Jan 12	<a href="http://cicskills.skillset.org/data/the_creative_industries_council_skillset_skills_group_report">http://cicskills.skillset.org/data/the_creative_industries_council_skillset_skills_group_report</a>
Foresight Horizon Scanning Centre, Government Office for Science		<a href="http://www.bis.gov.uk/assets/foresight/docs/general-publications/10-1252-technology-and-innovation-futures.pdf">http://www.bis.gov.uk/assets/foresight/docs/general-publications/10-1252-technology-and-innovation-futures.pdf</a>

## APPENDIX 4 – FURTHER READING LIST

NAME	DESCRIPTION
The 2013 Digital Landscape Infographic	A snapshot of the UK's digital landscape.
The Business Case for Equality and Diversity: A survey of the academic literature	This report considers the evidence for the business case for equality and diversity in private sector organisations. The aim is not to make the business case, but to assess the current evidence from academic journals and some key practitioner sources.
The Contribution of Higher Education to the UK Creative Economy: Literature Review	The concept of the creative economy has risen significantly in profile and importance. Today, all of the devolved nations and most of the English regions have identified the creative industries (in one form or another) as a priority, reflecting the strong economic performance of the sector and its potential for future growth. However, while the strategic guidance at regional and national levels frequently acknowledges the important role of higher education in the creative sector, it is not always apparent that this role is fully recognised or well understood.
The Economic Impact of the Cultural and Creative Industries in Oxfordshire	Oxfordshire's cultural and creative sector makes a substantial contribution to the county's quality of life and its economy. This research was commissioned to show how this happens, how the county's prosperity and future prospects might benefit most effectively from its significant local presence, and to identify how best to support this important sector.
The economic performance of the UK's Creative Industries	
The Next Wave of Innovation: Five areas that could pull the UK clear of recession	Britain needs a new economic model to pull it clear of a decade of stagnation. The forces that have driven growth in the past – consumer spending, freely available credit and the widespread adoption of computers – are unlikely to return.
The supply of and demand for high-level STEM skills	This briefing paper considers the supply of and demand for high-level science, technology, engineering and mathematics (STEM) skills in England.
The UK film, TV and Video Games industries today Powering Ahead	The report was commissioned by Pinewood Studios, produced by PwC and supported by Creative England, highlights the sector's current dilemma: whilst global demand is growing rapidly and offering avenues for significant growth, so are the numbers of nations actively beginning to expand their own creative economies.
Trinity's 'Newsroom 3.0' plan rolls out nationwide	Journalists working across all Trinity Mirror's regional papers are bracing themselves for the introduction of a new working model called 'Newsroom 3.0'. The new model was originally trialled in the publisher's North Wales newsroom but is now being rolled out across Trinity's 130-plus local newspaper portfolio.
Understanding Regional Growth Fund	This guide explains what the Regional Growth Fund (RGF) is, the process for bids from application to grant payments, and what other sources of funding are available.

AUTHOR	DATE	URL
My Social Agency	Jan 13	<a href="http://www.mysocialagency.com/the-2013-digital-landscape-infographic/4167/">http://www.mysocialagency.com/the-2013-digital-landscape-infographic/4167/</a>
Department for Business Innovation and Skills	Jan 13	<a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49638/the_business_case_for_equality_and_diversity.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49638/the_business_case_for_equality_and_diversity.pdf</a>
EKOS Ltd	Apr 11	
Oxford Inspires	Mar 10	
The Work Foundation	Dec 10	<a href="http://www.theworkfoundation.com/assets/docs/publications/176_stayingahead.pdf">www.theworkfoundation.com/assets/docs/publications/176_stayingahead.pdf</a>
Big Innovation Centre	Sep 11	<a href="http://biginnovationcentre.com/Assets/Docs/Reports/next_wave_innovation_web.pdf">http://biginnovationcentre.com/Assets/Docs/Reports/next_wave_innovation_web.pdf</a>
UKCES	Dec 11	<a href="http://www.ukces.org.uk/assets/ukces/docs/publications/briefing-paper-the-supply-of-and-demand-for-high-level-stem-skills.pdf">http://www.ukces.org.uk/assets/ukces/docs/publications/briefing-paper-the-supply-of-and-demand-for-high-level-stem-skills.pdf</a>
PWC	Jan 13	<a href="http://www.creativeengland.co.uk/wp-content/uploads/2013/01/Screen-Event-Website-version-RM1.pdf">http://www.creativeengland.co.uk/wp-content/uploads/2013/01/Screen-Event-Website-version-RM1.pdf</a>
Press Gazette	Feb 13	<a href="http://www.pressgazette.co.uk/trinity%E2%80%99s-%E2%80%98newsroom-30%E2%80%99-plan-rolls-out-nationwide">http://www.pressgazette.co.uk/trinity%E2%80%99s-%E2%80%98newsroom-30%E2%80%99-plan-rolls-out-nationwide</a>
BIS		<a href="https://www.gov.uk/understanding-the-regional-growth-fund">https://www.gov.uk/understanding-the-regional-growth-fund</a>

## APPENDIX 4 – FURTHER READING LIST

NAME	DESCRIPTION	AUTHOR	DATE	URL
V&A recruiting for games design residency	The Victoria and Albert museum has partnered with the University of Abertay in Dundee to create a residency for a games designer, creating work inspired by the museum's collections.	Wired	Jan 13	<a href="http://www.wired.co.uk/news/archive/2013-01/26/vna-game-design">http://www.wired.co.uk/news/archive/2013-01/26/vna-game-design</a>
Video Editing is Becoming an Important Skill Set for Ad Agency New Business	Adding video to a new business toolkit is a great way to personalise an agency. It offers prospects bits of content that have 'pass-along value'. The kind of content they will want to share on YouTube, Facebook, Twitter, LinkedIn, Google+ and Pinterest.	Fuel Lines	Jun 12	<a href="http://www.fuelingnewbusiness.com/2012/06/13/video-editing-is-becoming-an-important-skill-set-for-ad-agency-new-business/">http://www.fuelingnewbusiness.com/2012/06/13/video-editing-is-becoming-an-important-skill-set-for-ad-agency-new-business/</a>
Wearable technology - separating fact from science fiction	A panel of technology pioneers discuss the brave new world of wearable technologies and machine to machine communication.	The Guardian	Apr 13	<a href="http://www.guardian.co.uk/media-network/media-network-blog/2013/apr/03/wearable-technology-machine-to-machine">http://www.guardian.co.uk/media-network/media-network-blog/2013/apr/03/wearable-technology-machine-to-machine</a>
Who is using Hyperlocal media and what are they using it for?	Overall our research shows that hyperlocal media users are generally interested in consuming functional information including local weather and local breaking news, and do so from a range of sources.	Nesta	Mar 13	<a href="http://www.nesta.org.uk/blogs/creative_economy_blog/who_is_using_hyperlocal_media_and_what_are_they_using_it_for">http://www.nesta.org.uk/blogs/creative_economy_blog/who_is_using_hyperlocal_media_and_what_are_they_using_it_for</a>

# APPENDIX 5 – CONTRIBUTORS

---

MANY CONVERSATIONS, INTERVIEWS AND DISCUSSIONS FRAMED AND FOCUSED MUCH OF THIS WORK. THE AUTHORS WOULD PARTICULARLY LIKE TO THANK THE FOLLOWING FOR THEIR TIME AND WISDOM.

- Charles Levy, The Work Foundation
- Chris Thompson, Ravensbourne/Digital Greenwich
- Claire Harvey, Cressbed
- Dani Salvadori, Central St Martins
- David Docherty, CIHE
- David Osborn, Behavior
- Euan Semple, euansemple.com
- Frank Boyd, Creative Industries Knowledge Transfer Network
- Gordon Blair, Lancaster University
- Graham Hitchen, Directional Thinking
- Gregor White, University of Abertay Dundee
- John Sanderson, Whetstone
- Juan Mateos-Garcia, Nesta
- Liz Pearson, UEL
- Mark Adams, Collider
- Megan Elliott, X Media Lab
- Mike Dicks, Descience Limited
- MT Rainey, TH\_NK, Pottermore
- Nicole Yershon, Ogilvy
- Robert Smith, Goldsmiths College, University of London
- Shannon Vaughan, Ogilvy
- Tom Campbell, BOP
- Tom Chatfield

### **Creative Skillset**

Focus Point  
21 Caledonian Road  
London N1 9GB

**T:** 020 7713 9800

**E:** [info@creativeskillset.org](mailto:info@creativeskillset.org)

**W:** [www.creativeskillset.org](http://www.creativeskillset.org)

Follow the discussion on Twitter:

[@SkillsetSSC](https://twitter.com/SkillsetSSC)

Like us on Facebook:

[facebook.com/creativeskillset](https://facebook.com/creativeskillset)

Join us on LinkedIn:

[linkedin.com/company/creative-skillset](https://linkedin.com/company/creative-skillset)

