

Evaluation and Modernization of Vocational Education and Training within the Digital Creative Industries



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1. Executive summary

The report is the culmination of a two year project which aimed to determine best practice models for vocational education within the digital creative industries. The project was conducted with a grant from the EU-US Atlantis programme and based on a partnership between Teesside University in the UK, the University of Gävle in Sweden and the Universities of South Carolina and Iowa in the US.

The focus of the project was on the following research questions:

- What are the needs of the digital creative industries in terms of education and training?
- What are the attributes that employers are looking for in graduates, and to what extent are these attributes exhibited by graduates of digital creative programs?
- How can higher education and industry work more effectively together to prepare students for careers in the digital creative industries?

To answer these questions, the team undertook a review of the existing literature in this area, and three stages of primary research, broadly corresponding to the three research questions.

- Meetings with digital creative professionals in each participating country.
- Surveys of industry panels formed by each institution.
- Case studies of partnerships between universities and industries.

A review of existing literature established that the digital creative industries are economically significant across the EU and US, and are subject to rapid change, largely predicated on the pace of technical developments. This places considerable demands on graduates entering the industries – demands that are not always met. Higher Education has a key role to play in narrowing the skills gap, but to do so it needs to keep pace with industry. Universities and industry need to collaborate in order to ensure they effectively prepare graduates for careers in the digital creative industries.

Meetings with industry representatives provided evidence of the ways in which rapid technological developments in the industry impact on business models and audience relationships as well as the

technical requirements of creative work. Responses emphasized the importance of entrepreneurship within these industries, not only in relation to creating new businesses but in relation to the way in which individuals work within organizations. These meetings also revealed a ‘disconnect’ between industry and University perceptions, emphasizing the need for higher education and industry to communicate and collaborate to ensure the successful transition of graduates into professional careers.

From the findings of this phase of the project we compiled a taxonomy of attributes which graduates need to have developed to succeed in these industries:

- Conceptual abilities
- Technical skills (including writing skills)
- Awareness of audiences
- Awareness of the business environment
- An entrepreneurial attitude

The survey of industry panels drew upon the previous stage of the project to frame questions around industry demands and the preparedness of student interns and graduates. Results were generally consistent across the panels with some variation in priorities that reflected specific skills needs in sub-sectors. Respondents across the board prioritised conceptual abilities, a range of ‘soft skills’ and an enterprising attitude, although technical skills were deemed extremely important in some sub-sectors. Interns were often seen as inadequately prepared in key areas, and closer collaboration between higher education and industry was seen as playing an important part in addressing this problem.

The case studies revealed four main models of collaboration:

- Industry involvement in program design and delivery
- Student Internships and work placements
- ‘Live’, quasi-professional projects
- Co-location and complex partnerships

The case studies highlighted a range of ethical, legal, quality and cultural considerations which Universities had to address when working with industry, along with the need for sustainable resourcing of collaborative initiatives. It was clear that good communication was critical to success and that successful partnerships had invested in building strong relationships as well as finding a range of inventive solutions to the provision of physical and human resources.

The recommendations arising out of this report are that Universities need to:

1. Change the culture of the academy to foster creativity and entrepreneurialism
2. Adapt the culture of the academy to better engage with industry
3. Keep pace with industry practices
4. Teach a balance of conceptual thinking and practical skills
5. Explore and learn from existing best practice models of collaboration
6. Promote better understanding between industry and higher education
7. Invest in developing stronger working relationships with industry

2. Introduction

This project brings together four participating universities funded by the European Commission and the US Department of Education through the Atlantis program designed to enhance educational collaborations between the EU and the US. The goal of the project was to recommend best practice models for vocational education for the digital creative industries (DCI).

- We define *vocational education* broadly to include any program in higher education aimed at preparing graduates for a particular profession or industry.
- We define *digital creative industries* as those fields that draw on communication abilities, technical skills and creativity to produce digital media such as journalism, film, television, electronic games or social media platforms.

2.1 The Atlantis program

The Atlantis program is part of an EU-US bilateral Agreement that aims to promote understanding between people of the European Union and the United States of America and to improve the quality of their human resource development. The program supports consortia of higher education and training institutions working together at undergraduate or graduate level to improve their educational services, to compare and modernize curricula and to develop joint study programs with full recognition of credits and qualifications.

The program started in 1995 and was renewed in 2000 and 2005, each time for another five years. The current program finishes in December 2012. For budget reasons, the US Department of Education has cancelled all future calls for proposals and is currently exploring with the European Commission ways to integrate the Atlantis program with the future Erasmus for All program.

The current agreement which started in 2006 funds over 200 projects and enables 6,000 students and teachers to take part in exchanges. The program funds three different types of activities:

- Transatlantic degree projects to establish joint study programs.
- Excellence in mobility projects, which fund institutional partnerships that help students study abroad.

- Policy-oriented measures, which provide support to multilateral EU-US projects and activities designed to enhance collaboration in the higher education and vocational training field.

2.2 The Atlantis project

The EU-US Atlantis project under evaluation falls under the latter category and focuses on the Digital Creative Industries (DCI). The project aimed to determine best practice models for vocational education within the DCI, based on effective communication between education providers and the industry.

The project is based on a partnership between four Universities: Teesside University in the UK, the University of Gävle in Sweden and the Universities of South Carolina and Iowa in the US.

A joint proposal was successfully submitted to the EU-US Atlantis program in 2009 and the project started officially in January 2011 for a two year period. Within this two year period, the project proposed an in-depth literature review to identify current issues, mutual visits to each country to talk to relevant professionals and organizations in order to establish needs and best practices, and consultation with industry panels in each country to highlight solutions to the identified issues and to develop communication models. The project culminated in an international conference in Bournemouth, UK in September 2012 which aimed to present models of communication and best practice to a wide ranging audience of representatives from education and industry in each country.

2.3 The Project Team

The project team included participants from four universities:

- *The University of Gävle* in Sweden has more than 14,000 students and was established in 1977. Our project included a faculty member from [Graphic Storytelling](#) and one from [Creative Computer Graphics](#). Plans are underway to merge the two programs into one better suited to present students with the skill-set needed for careers in DCI. Current enrolment across the two programs totals 120 students.
- *Teesside University* in England has more than 28,000 students, with a special emphasis on professional and workforce development. Its roots were set in 1930 and it took its current form in 1992. Our project was originated by researchers in the Institute of Digital Innovation, but was subsequently taken over by two faculty members from the Media section within the [School of Arts and Media](#). This section comprises a faculty of 18 and 450 students studying media production and journalism; a further 230 students study animation and game creation within the [School of Computing](#). Teesside

is a [Creative Skillset Media Academy](#), with vocational degree programs accredited by relevant industry bodies.

- *The University of South Carolina* has more than 30,000 students. It was founded in 1801 and gained its current charter in 1906. Our project included two faculty members and one graduate student from the [School of Journalism and Mass Communications](#). Enrolment in its undergraduate and graduate programs totals 1,400, with a faculty of 37. The School emphasizes health/science/risk communications, history, new media technologies and communication law. Undergraduates specialize in advertising, public relations, broadcasting, journalism and visual communications.
- *The University of Iowa* in the US has 31,000 students and was founded in 1847. Our project included two faculty members from the [School of Journalism and Mass Communication](#). Enrolment in its undergraduate and graduate programs totals approximately 500 students, with 20 faculty members. Students study journalism, broadcasting, online communication, public relations, photojournalism and media research but do not follow specific tracks. The School awarded the first US doctorate in mass communication in 1948.

2.4 National Contexts for the Project

The working context in each partner country is inflected by a number of political, social, economic factors pertaining to Higher Education in general, and vocational courses addressing the digital creative disciplines in particular.

In *Sweden*, the education system is an integral component of the concept of the welfare state. Swedish spending on education is amongst the highest per capita in the world. Advanced Vocational Training is a recognised form of post-secondary education designed and carried out in close co-operation between industrial enterprises and course providers (mostly higher education, but also upper-secondary schools, municipal adult education and companies).

In the *UK*, the Higher Education sector has been increasingly striving to work more closely with industry, with support from a government-led infra-structure ([BIS](#), [CIHE](#) etc). Digital creative industries in particular are supported by a very active Sector Skills Council, [Creative Skillset](#). This organization, funded and governed by the media industries, accredits a network of '[media academies](#)', which provide industry-relevant vocational education. Meanwhile, the UK newspaper industry has an established system of professional qualifications provided by the [NCTJ](#) (National Council for the Training of Journalists), who also accredit University programs that meet appropriate professional criteria.

In the *US*, educational independence is a key value. Economically, *private* institutions could not function without direct gifts and grants from the commercial sector, while *public* institutions depend on tax money to operate. However US higher education has sought to maintain a distance from both commercial and political imperatives, and universities are often skeptical of any perceived influence by industry or government in their educational programs. Nevertheless, American colleges dare not fall behind in the teaching of real world skills. Because the communications fields have been heavily impacted by the digital revolution, Iowa and South Carolina – like many others in the US – are seeking better collaboration with communications industries while still maintaining the principle of educational independence. The Journalism Schools at both Iowa and South Carolina are accredited by the Accrediting Council on Education in Journalism and Mass Communications ([ACEJMC](#)).

Structural differences between the EU and US created some difficulties for the team in terms of determining an appropriate audience for the report, since policymaking bodies in Europe do not have equivalent counterparts on the other side of the Atlantic.

2.5 Research questions

The focus of the project was on the following research questions:

- What are the needs of the digital creative industries in terms of education and training?
- What are the attributes that employers are looking for in graduates, and to what extent are these attributes exhibited by graduates of digital creative programs?
- How can higher education and industry work more effectively together to prepare students for careers in the digital creative industries?

2.6 Research strategies

The team undertook a review of the existing literature in this area, and three stages of primary research, broadly corresponding to the three research questions.

- Meetings with professionals from various businesses and organizations within the digital creative industries in each participating country.
- Surveys of industry panels formed by each institution.
- Case studies of partnerships between higher education and digital creative industries.

3 Literature review

In the course of conducting this literature review it became clear that a disproportionate amount of the existing research specifically targeting issues of employability in the DCI has been conducted in the UK, where the sector is seen as a key driver for economic development. This is inevitably reflected in the literature review.

The digital creative industries represent one of the major industrial sectors in the EU and US and have been identified as representing one of the four sectors with the potential to support economic recovery (Universities UK 2010). This potential is recognized in economic planning across the EU, as exemplified by the UK's 2012 budget, which committed to tax relief in specific growth sectors such as TV production, animation and video games.

The sector is also one characterized by rapid change reflecting developments in new technologies. Thus in the US, the Pew Research Center's annual report on the news media (Mitchell and Rosenstiel 2012), found that cable television's business model was holding stable, but that elsewhere the economic disruption of legacy media was continuing as vast audiences on the web continued to drive advertising dollars online. Within the digital media sector, advertising online increased 23% from 2010 to 2011; meanwhile, in the mobile market place, text message advertising, which had held the number one spot in 2010, was overcome by mobile search. This revenue stream of \$653 million (45% of the mobile ad market) is not accessible to "legacy" media.

3.3 Why Digital Creative education and training matters?

With a large potential for employment and growth, the Digital Creative Industries are positioned to make an important contribution to society, posing proportionate challenges for higher education.

- *DCI is a rapidly growing, competitive market and a significant area of employment.* The digital creative industries are already worth \$3 trillion worldwide. In June 2012, the social media site [*LinkedIn*](#) listed nearly 2 million social media professionals and nearly a million digital media professionals – only two of the possible categories related to digital creative industries.
- *Digital connectivity is driving world economics and redefining social capital.* By 2014, 25 million homes in the UK are expected to have broadband with as many people

accessing the Internet on their mobile phones (Skillset 2010). In the US, three-quarters of the population was using the Internet by June of 2012, totaling more than 239 million users. (Internet World Stats website 2012). Mobile Internet use is expected to reach 113.9 million, while online video is expected to reach 169.3 million users (HubSpot 2012).

- *The DCI landscape itself is changing rapidly.*, The three key drivers of change are the availability of multifunctional mobile devices, the movement of content and services to internet-delivered platforms, and the emergence of new business models predicated on convenience, personalization, networking, flexibility and differentiation (Skillset 2010).
- *Student demand for digital creative programs is large and rising.* In 2009, approximately 400,000 UK students studied creative and digital programs (CIHE 2010). Among the 477 accredited Journalism and Mass Communication programs alone, in the US, 2010 enrolment rose to nearly 205,000 students. (ASJMC 2012)

3.4 The role of Higher Education

Case study research from the UK has demonstrated how Higher Education contributes to the growth of the creative economy (Universities UK 2010). It suggests six overlapping propositions:

- Higher education is a crucial *source of new ideas and practices* that drive innovation in the creative economy
- Higher education is *adapting new models of engagement* with the creative economy.
- Universities are *regional centers for innovation* and creative partnerships.
- Higher education is the *principal source of talent* for the creative economy.
- Higher Education can be a crucial provider of *continuous professional development* for the creative industries.
- *Employability and enterprise* are areas of growing focus for higher education.

In both the EU and the US Higher Education is increasingly focused on providing graduates with the new knowledge, creativity and skills needed by industry. However recent studies show that neither employers nor graduates in the digital creative industries are confident that this is being achieved.

Skillset's *Creative Media Employer Survey* from 2010 showed that 82% of employers in the UK found it hard to fill vacancies due to applicants' lack of the skills and talent needed by the company, while 67% cited applicants' lack of relevant work experience (Skillset 2011).

In the US, a 2010 Annual Survey of Journalism and Mass Communication Graduates (ASJMC 2012) found a majority of graduates felt they had been prepared for "today's job market" but did not graduate with the skills needed for jobs in the mobile and new media marketplace. Seven out of ten graduates reported that social media and web content creation were required skills in their workplace, yet 31% felt they did not have adequate web skills and 26% felt they were not adequately prepared for the job market. Although academic program administrators in the US had adjusted their curriculum in response to the job marketplace, only 1 in 10 had added digital media courses.

3.5 Resolving the Skills Gap

With these skills gaps in mind, it becomes essential to identify the key components that are missing. Skillset (2011) found the following areas of particular interest to employers yet lacking in applicants:

- *Layers of Competency.* Applicants lack understanding in different technology platforms, how those platforms impact content development, and how those platforms are used by cross-functional teams both inside and outside of their own companies.
- *Multi-platform skills.* Applicants lack understanding of how to create and distribute content across a range of media channels, along with how to exploit advances in technology.
- *Management, leadership, business and entrepreneurial skills.* Applicants lack skills combining leadership with innovation, as well as creativity and the analytic abilities to understand audiences and implement appropriate business strategies.
- *Intellectual property and monetization of multi-platform content.* Applicants lack understanding of intellectual property legislation to protect content from piracy along with the ability to deal with copyright infringement and illegal downloading.

In all, the survey suggests that employers think higher education struggles to keep up with technical changes in the digital environment of creative media, and that there is a need for the DCI to have a greater input into the shaping of vocational qualifications.

One further issue, not unique to this sector, is graduates' lack of commercial awareness (Wilson 2012). Given the increasing reliance of the DCI across the US and EU on a casualized work-

force, short term contracts and small independent suppliers, new entrants to the sector are ill-prepared without an awareness of commercial context generally and entrepreneurship in particular.

Across Europe, although the demand for learning entrepreneurship is on the rise, a shortage remains in human resources and funding (EU Expert Group 2008). Entrepreneurship is generally not integrated into the curriculum in higher education across Europe, although it is more common in Germany¹, Denmark² and the UK³. The EU report recommends that concepts of entrepreneurship and self-employment should be introduced to all first year students undertaking an undergraduate degree, and that all higher education institutions provide at least one entrepreneurship course on every university degree program.

In the US, meanwhile, courses in entrepreneurship are generally found in business, rather than communication or journalism departments.. However this is gradually changing: for example, Arizona State University has a Knight Chair in Media Entrepreneurship and the University of South Carolina offers a course in entrepreneurship and business practices for visual communication students.

3.6 Enhancing the University-Business Collaboration

Universities, in collaboration with businesses, have the capability to help build healthy knowledge based economies across the globe. This can however only be achieved through a deeper engagement predicated on strong communication and understanding between the sectors (CIHE 2010; Wilson 2012). If implemented effectively, these collaborations can lead to:

¹ In 2008 Germany had 48 working chairs in entrepreneurship recorded. Out of these 22 are universities. Germany also has around 40 entrepreneurship affiliated chairs which has integrated it into their teaching.

² The number of entrepreneurship courses in Denmark is growing within humanistic, economic and technical studies. In 2004 the government started the International Entrepreneurship Academy (IDEA) which focuses entirely on teaching entrepreneurship in HE. In 2007 the government announced a policy that stated that all students in University should have access to entrepreneurship courses.

³ An estimated 95% of all UK Universities are engaged in delivering different forms of entrepreneurship education to their students. A survey of Enterprise and entrepreneurship in Higher Education, from 2007, shows that 36% of in-curricula provision is entrepreneurship activity. The remaining 64% takes place as extra-curricular provision. 80% of all of this provision takes place at an undergraduate level.

- Design and delivery of courses relevant to the current and future needs of employers in the sector.
- Graduates who are confident in their abilities, seeking knowledge and skills relevant to their future careers.
- Better opportunities for students to integrate their studies with work experience, connecting academia and the working world.
- An enterprise and entrepreneurial culture among both staff and students that promotes and encourages success.
- Businesses not only updating their employees' skills, but viewing universities as a natural source of the expertise.

To enhance entrepreneurship and employability, Tim Wilson (2012) suggests the use of industry advisory groups and business and alumni mentors as well as work experience and internships. In particular, he cites strong evidence to support the importance of placements, internships and work experience and identifies a lack of work experience as a key barrier for graduates seeking employment. One emerging model of placement practice in the UK is the consortium model, where a student tries out three to four 12-week placements at several companies instead of a longer placement with the same company. This model is designed for small enterprises and is thus particularly appropriate for the DCI. A similar arrangement, the 'coop model', is currently implemented in Sweden, where students can opt to embed paid working periods in their study time, extending a three year educational program to four years.

A number of examples of good practice cited in the literature are listed in [Appendix 1](#).

3.7 Summary: Lessons Learned from the Literature

In summary, the existing literature highlights three key threads:

- The digital creative industries are growing rapidly, creating demand for a broad and ever-evolving spectrum of skills from new entrants.
- Universities have the potential to provide graduates with a relevant skills-base for entry into the industries but often lag behind current developments.
- Higher education can narrow the skills gap through enhanced collaborations with industry, including increased interaction between students and potential employers.

4 Meetings with DCI professionals

These meetings took place in and around the four participating Universities. In each the team met practitioners from a range of businesses and disciplines. Contributors were asked to consider the three research questions from a perspective informed by their own recent and current experiences.

4.3 Context and overview

The following summaries are designed to give an overview of each visit to help contextualize our findings. Full details of the individuals and organizations consulted are listed in [Appendix 2](#).

4.1.1 Teesside

In January 2011 the team visited *Teesside University*, where the focus was on digital entrepreneurship and the role of the digital creative industries in economic regeneration. The North East region of England has been hard hit by the economic downturn and the digital creative industries are seen as having a strategic role to play in stimulating employment. The University, in partnership with the Regional Development Agency [One North East](#)⁴, has been a key player in providing an infrastructure within the sub-region to support the development of new businesses. Major initiatives included the establishment of the [Institute of Digital Innovation](#), a regional centre of excellence supporting innovation and research, the [Digital Fellowship](#) start-up incubation scheme, to provide digital entrepreneurs with accommodation, financial support and mentoring, and [Digital City](#), which provides subsidized accommodation and support for newly established digital businesses. We met with digital fellows and mentors, as well as three organizations involved in providing training and support to the media industries in the region: the [Press Association](#), [Codeworks](#) and [Northern Film and Media](#).

4.1.2 South Carolina

Our next visit, in April 2011, was to the *University of South Carolina*'s School of Journalism and Mass Communications. There we heard from an impressive range of speakers, including the publisher of online business magazine [MidlandsBiz](#), faculty members involved with job creation

⁴ [The Regional Development Agencies](#), including One North East were abolished in 2012 following the UK general election. Unfortunately this led to the closure of the Institute of Digital Innovation, although both Digital City and the Digital Fellowship scheme have survived with alternative funding streams, largely from the European Union.

and business incubation from [Midlands Technical College](#), researchers into entrepreneurship, technology and job creation from the [Darla Moore School of Business](#) and [South Carolina Research Authority](#), and individuals involved in the development, promotion and support of digital creative entrepreneurs and professionals through such diverse initiatives as the [USC Columbia Technology Incubator](#), [Engenuity SC](#), [COR \(Columbia Opportunity Resource\)](#), [The Export Consortium](#), [IT-ology](#) and the South Carolina [Small Business Development Centre](#), as well as meeting with the President of the University and the Secretary of Commerce for the South Carolina state legislature.

4.1.3 Gävle

In June 2011 we toured the state-of-the art facilities at the *University of Gävle*, Sweden where students are taught visual effects and graphic storytelling. We visited [HAWC International](#), a post-production company who have developed a digital platform which enables them to undertake editing and effects commissions while located in a converted school house in rural Sweden, far from traditional centers of media production. We also visited [Gävle Technology Park](#), where the University's [GIS \(Geographical Information System\) Institute](#) is located. The team learned about the range of entrepreneurship initiatives at University of Gävle including taught courses in entrepreneurship and business skills, the start-up and incubation support offered by [Drivhuset](#), and one of the University's success stories: digital marketing enterprise [Baringo](#).

4.1.4 Iowa

Finally, at the *University of Iowa*, we visited local businesses undergoing transformation – sometimes agonizingly – from traditional forms of doing business to digital delivery. One visit was to [Source Media](#), a newspaper/television news operation updating its technology while also merging its print and broadcast news operations. Another was to [Premier Guitar](#), a magazine based in a legacy print product, now developing a variety of related web and email products. We listened to the stories of entrepreneurs, failed and successful, on what skills those emerging from universities must possess in the digital working. Enterprises represented by our panelists included independent video production company [Hawk City Productions](#), media researchers and consultants [Crawford Johnson & Northcott](#), and [Digital First Media](#), local newspaper the [Iowa City Press Citizen](#), and the [Internship and Placement Coordinator](#), for the Journalism school at the University.

4.2 Key findings from the meetings

The team held many extensive and wide ranging discussions with our contributors over the period of the research project. In the interests of economy and focus, and to avoid repetition,

these have been condensed into key findings pertaining to the skills agenda. The specific case studies addressed here reflect broader industry trends that cross national and often disciplinary borders.

4.2.1 Current Developments in the digital creative industries

Media and communications industries are being transformed by the digital revolution. They are rapidly embracing and expanding upon new technologies that are changing their production processes and their business models, redefining the relationships they have with their audiences. The speed of this revolution has challenged companies to find a work force with new skill-sets and the ability to embrace innovative ways of working.

An increasing number of publishers, and broadcasters, large and small, are committed to becoming ‘digital first’, as audiences, particularly the younger demographic, move online. However, most organisations encounter logistical and cultural problems reconciling new models with the traditions of “legacy media” (broadcast and print). For most, monetization remains problematic, and in many cases the main economic function of digital content is still to drive traffic back to legacy media. Steve Buttrey of [Digital First Media](#) argues that digital demands a radically new business model. Even taking into account the lower costs of digital production, display advertising is unlikely to generate sufficient income to sustain digital publishing, forcing publishers to consider alternative revenue streams such as paid-for content and retail.

In the US, we found that companies are facing the challenge of directing the dwindling resources from legacy media to stay competitive in commercial industries where consumers demand a delivery of content across multiple digital platforms. An interesting example was [Premier Guitar](#), a specialist magazine, which has embraced a ‘digital first’ approach despite relying primarily on income from the printed magazine. The magazine has built audience through a free website which offers additional content such as video reviews, and through an advertising-free email newsletter. It has also launched ‘Guitar Squid’ a branded site that takes advantage of the potential for aggregators to make advertising income without the cost of generating content, and is developing a subscription-based mobile app. Executives report that they have struggled to educate advertisers about the benefits of digital, which, at present, is largely offered as ‘value added’ to print sales.

It was striking that journalists at the magazine were required to be multi-skilled not only with regard to technical competencies (being able to generate appropriate content across a range of platforms and formats) but also with regard to a broader range of attributes (having an understanding of the expectation and behaviors of audiences across those platforms, of the commercial context for that content, and of the specific business models involved).

Larger news organizations have also had to adapt to shifting audience demands, operating in a 24-hour news environment and across multiple platforms. For example, traditional community newspaper publishers [Source Media](#) in Cedar Rapids, Iowa are using digital technologies to converge print, web, and broadcast operations into a single content hub with “multimedia journalists” working across all media. This throws up a number of challenges as the organization tries to shift from a ‘legacy’ to a ‘digital first’ mindset while preserving journalistic values. Some of these are concerned with the functionality and usability of digital platforms; many more, however are editorial and logistical. Workflow is revolutionized in a newsroom where stories break and develop online, necessitating a fresh editorial approach to the broadcast and print platforms to ensure that coverage is not simply replicated; notions of editorial control must be redefined as reporters utilize social media, and audiences become active ‘users’; rapid changes in technologies requires a continual investment in updating skills, formats and functionality. One of the greatest challenges is presented by the additional workload for journalists and the potential for multi-tasking overload. One approach has been for reporters to treat online platforms as a live ‘note-book’, allowing audiences to become involved in the news-making process by supplying information and comments, even prompting questions Broadcast and print output thus becomes more reflective as stories take shape.

The developments in news practice exemplified by Source have not only created a need for digital up-skilling of the workforce, they challenge to journalists to find new ways to create content . As one [journalism educator](#) puts it, “When a digital journalist learns of a new gadget or social tool, he starts trying to figure out how to use it to do better journalism.” Such an approach requires both technical agility and entrepreneurial risk taking, neither of which have traditionally been part of higher education in journalism, in either the US or the EU.

One impact digital technologies have had on working practices is to break the traditional interdependence of the digital creative industries and urban centers. [HAWC International](#), who provide post-production services to the film, television and commercial video industries, are based in the Swedish village of Kilafors, more than three hours from Stockholm. Håkan Karlsson, co-founder of the company, has developed a platform which enables a virtual community of post-production workers to collaborate on creative projects with no requirement for geographical proximity. He explains that the rural environment not only provides a better work/life balance but is more conducive to creative work.

Although the business is predicated on a distance working model, Karlsson stresses that some face to face engagement is still essential, but that this can be turned to the advantage of a remote centre such as Kilafors. The old school house that houses HAWC’s editing suites, recording studio, screening room and meeting rooms also provides comfortable accommodation for visitors, and the company’s presence has helped to stimulate the local economy, supporting the growth of a communal and creative eco-system.

The example of HAWC illustrates the degree to which this industry relies on a work-force of highly skilled individuals, largely working as freelancers or within small entrepreneurial businesses. It is also indicative of the degree to which innovations in workflow technologies can impact on the working lives of media professionals.

In all four of the regions visited, small businesses are seen as key to the development of the local economy - a view substantiated by the work of researchers at the [Darla Moore School of Business](#) in South Carolina. Small digital creative concerns, with low barriers to entry and an inherently innovative ethos, are particularly well placed to play a part in economic regeneration.

The North East of England is a region that has suffered from successive economic blows over the last five decades, including the migration of its traditional manufacturing base, a consolidation of media companies to other parts of the United Kingdom, and recent public sector cuts. Regional strategies for growth have focused on the incubation and support of small businesses, with an emphasis on fostering a digital creative sector capable of innovating products and services that will lead to private investment and employment. The Digital Fellowship scheme at Teesside has had considerable success in fostering digital start-ups with long term sustainability, while Digital City in Middlesbrough, much like the Technology Park at Gävle, provides the networking and collaborative opportunities that feed the success of a creative economy.

While a minority of companies, particularly in games design, have been able to grow into medium-sized concerns with this support, for most start-ups the key to survival has proved to be staying extremely lean. For the digital creative work-force, this means that while the sector offers opportunities for the new entrepreneur, and for the versatile freelancer, there are still few opportunities for permanent employment in the region.

It was clear from our overview of the sector that, while dominated at one level by multinationals, in many respects digital is still something of a ‘wild west’ business environment, presenting an exciting but unpredictable economic landscape, with no single or stable model for success. New entrants to the creative digital sector need an entrepreneurial approach that allows them to take risks, embrace (and learn from) failure, and to prepare for a “portfolio career” rather than a single, linear path to professional success.

4.2.2 Core Attributes for Graduates

Through our discussions with practitioners and employers across sectors and across regions, we have identified a set of 5 core attributes that underpin success for new entrants into the digital creative industries.

Our research spans areas as diverse as journalism, television and film production, interactive media and visual effects; thus there is a great deal of variation in the specificity of each attribute – particularly with regard to conceptual abilities and technical skills. Nevertheless we think our

findings point to some general conclusions that are critical to the development of vocational education in these areas – not least as they alert us to areas of weakness in a some current provision which, while not uniform across countries and disciplines, are sufficiently commonplace to warrant serious consideration by educators and professional advisory bodies and accrediting agencies.

The following list is in effect a summary or amalgam of what might be termed the “graduate wish list”, that is to say the attributes employers have told us they are looking for in graduate applicants. It is also informed by feedback from alumni regarding the extent to which their University education has, or has not adequately prepared them for careers in the digital creative or media sectors.

- **Conceptual abilities:**

e.g: creative thinking; storytelling; problem solving; critical thinking.

Most employers across the digital creative sector seem to look for most of the specific abilities listed here to a greater or lesser degree, although emphasis and priorities differ considerably. These abilities are perhaps among the most transferable across fields; thus those with excellent storytelling abilities may move between genres, platforms and even disciplines in the course of a career. Employers emphasised qualities such as curiosity and degree of scepticism as desirable qualities.

- **Technical skills & understanding⁵:**

the term ‘technical is defined as pertaining to techniques, as well as technology, e.g: writing (for specific purposes/ platforms/ audience), camera work, sound recording, editing, data mining, coding, web design etc.

The list is potentially endless, and clearly different disciplines demand very different technical skills, however an increasing number of fields look for ‘T-shaped’ graduates, with one or more area of expertise, but a degree of competence in or at least familiarity with a range of additional skills. For example newspaper journalists must, above all, be able to write – but are increasingly required to have, or to develop skills in audio-visual production and an understanding of interactive functionality across devices.

- **Awareness of audiences:**

in particular relationship building; user experience / usability; audience behaviour; issues of trust; the management & potential of user-generated content and metrics for tracing online activity.

This would appear to be an increasingly complex issue and one which is increasingly seen as the business of everyone within media organizations as opposed to that of

⁵ For the purposes of the survey this was later split into two: Technical Skills and Writing. It was felt that employers in the field of journalism, who constituted a large proportion of respondents, would think of the two areas as distinct and so find it easier to frame a useful response.

nominated individuals. For an increasing range of media producers the relationship with audiences is shifting from a one-to-many- model to a two-way dialogue.

- **Awareness of the business environment:**

i.e: the economic context in which their business operates; business models; business opportunities

As in the (closely associated) case of audiences, this is increasingly seen as everybody's concern within organizations. Within journalism especially this is a relatively new state of affairs, since in the past editorial staff have often remained very distant from, even ignorant of the commercial operation of their organizations. In an increasing range of media organisations, creatives are required to think multi-media, multi-platform, and to consider the commercial impact of synergy across platforms.

- **An entrepreneurial attitude:**

characterised as passion, focus, guts, risk-taking, originality, a pioneering spirit

Many of the main attributes identified as desirable for digital creative graduates were part of what can be described as an entrepreneurial mindset. A willingness to experiment and to embrace failure was seen as key to creative employees as well as traditional entrepreneurs.

4.2.3 Entrepreneurship/ Entrepreneurialism

Entrepreneurship became a key theme of our discussions as digital creative professionals, educators, strategists and graduates repeatedly returned to the importance of the digital entrepreneur and of entrepreneurial attitudes in the digital creative industries.

Entrepreneurship is given two definitions in the literature explored in the course of this project. One meaning refers specifically to the setting up of new businesses and an aptitude in this respect will indeed prove an asset for new-comers to a field where small, innovative operators are often at an advantage. However a broader interpretation of the term takes it to describe certain types of attitude and behavior which are also valuable within organizations – especially organizations that operate within the digital creative sector, where innovation may be key to survival. An entrepreneurial approach in an institutional context is sometimes referred to as 'intrepreneurship'. [The Intrepreneurship institute](#) describes 'intrepreneurship' as "the use of entrepreneurial techniques within an enlightened corporation or organization which allow employees to create for their employer new products, services or new entire divisions for the firm with the full backing of the firm's resources and management."

Entrepreneurialism (in this broader sense of innovative and commercially aware practice) is key to the digital creative industries, as evidenced by their reliance on creative, innovative employees as well as contract workers, freelancers, and traditional entrepreneurs launching new businesses.

Self-employment is common throughout the digital creative industries in all three of the participating countries, and has become increasingly so as economic pressures and technological advances disrupt legacy media. In areas such as journalism where professionals still regard freelance status as risky, they are nonetheless being forced to embrace it. Meanwhile, where media professionals do continue to work within larger institutions, they are increasingly called upon to be innovative and commercially aware in their approach.

It was recognized that not all graduates think of themselves as entrepreneurs; many outstanding students with great potential would rather find an entry-level job than start their own business. However some may find they have no choice if they wish to work in their chosen field. Indeed some 'reluctant' or 'accidental' entrepreneurs we interviewed had never intended to go down that particular path, but had found it to be the only way they could fulfill their professional ambitions.

One barrier to entrepreneurial engagement for many students and graduates is the perception of creative integrity and commercialization as mutually exclusive working practices. This can be problematic not only in the context of new start-ups but also within larger media organizations. There was a view that Higher Education could play a role in better preparing digital creative students to engage in a modern commercial environment and in developing the kind of entrepreneurial attitude valued in so many areas of the industries.

4.2.4 The Higher Education/Industry Relationship

Higher Education was seen as having a vital role to play in the development of the digital creative industries and of new talent in particular. However Universities were also thought to be out of step with industry much of the time, resulting in a serious skills deficit in some areas.

Employers did not necessarily expect new recruits to be familiar with the specific software and workflow systems used by a given organization, however they did expect graduates to be adaptable and flexible with a solid foundation of skills and knowledge on which to build. In practice this would mean familiarity with a range of relevant tools and an understanding of industry drivers and processes. Graduates did not always feel that these foundations had been in place when they embarked on their professional careers.

Industry representatives recognized that Universities are, by definition, not well placed to provide students with opportunities to get to understand the business environment, and were willing to work in partnership with educators to address this. However most saw it as very much the responsibility of the Universities to take the initiative in this respect.

On the topic of entrepreneurship, there was a general consensus that, while the passion and drive that characterizes most entrepreneurs may be innate, Universities could give digital creative students a stronger foundation in terms of business skills and commercial awareness. It was also

felt that an entrepreneurial attitude could be fostered and developed within Higher Education, by rewarding innovative thinking and risk taking – which is not currently the case within many curricular and assessment regimes. Contributors also raised the issue of the prevailing value system operating in higher education, whereby lecturers are valued for their academic achievements alone, including papers and qualifications, rather than for their industry or entrepreneurial experience. Recognition for entrepreneurship within the faculty was seen as setting an important example to students.

It was clear from our discussions that media professionals were as likely to be laboring under outdated impressions of Universities as vice versa: this is not entirely surprising. Members of the faculty with industry credentials tend to have been away from professional practice for several years and without regular efforts to re-engage, will be behind the curve on industry trends. At the same time individuals who have worked in industry for many years may base their ideas of University on their own under-graduate experience.

Our contributors were sometimes surprised to learn that academic departments were keen to have a dialogue with industry and to work in partnership, as they tended to perceive Universities as rather removed and inaccessible. Likewise, the team was often pleasantly surprised at how eager our contributors were to share their expertise and to support students and graduates. The need for ongoing dialogue and collaboration was evident with regard to issues of employability, entrepreneurship and the transition from education into industry. However there was an awareness on both side of the resource implications and the need to identify effective and economical strategies for any sustainable partnerships between Higher Education and digital creative industries.

4.3 Conclusions from the meetings

We drew four main conclusions from these meetings, which informed subsequent stages of the project:

- Rapid technological developments in the industry have far-reaching effects, impacting on business models and audience relationships as well as the technical requirements of creative work.
- To succeed in these industries, graduates need to have a combination of conceptual, writing and technical skills, an appreciation of audience relationships and commercial context as well as an entrepreneurial attitude (although emphasis changes depending on sub-sector)

- Entrepreneurship is particularly important to the digital creative industries, not only in relation to creating new businesses but in relation to the way in which individuals work within organizations ('intrepreneurship')
- Higher education and industry need to communicate and collaborate to ensure the successful transition of graduates into professional careers.

5 Survey of Industry Panels

Drawing on what had been learned from the first phase of our research, we identified a set of core questions around

- Perceived training needs.
- Partnering experiences with higher education, including internships.
- Entrepreneurship.
- Background information of respondents.

Each institution convened a “virtual panel” of industry representatives from areas of the DCI relevant to that institution.

5.1 Survey Samples

The core questionnaire and methodology was adapted to fit the needs of each partner’s context. The University of Gävle partners used an open-ended questionnaire adapted to its specialization in graphic storytelling and creative computer graphics. The other partners used a web survey questionnaire containing 30 items with both closed-ended and open-ended items. Because each industry panel was specifically developed for this project to match a program’s specializations, each partner worked with a small but well-informed sample. Teesside had 11 respondents from across the media sectors; Gävle had 5, primarily from visual effects; South Carolina had 9 and Iowa 21, all from areas of journalism. Both American institutions made use of existing panels: South Carolina utilized the Journalism and Mass Communications School’s Industrial Panel (17 members; 53% response), while Iowa surveyed the School’s Professional Advisory Board (40 members, 53% response). Teesside, to ensure a broad, national constituency, created a virtual panel for 12 for the purposes of the exercise (92% response). A sample survey can be found in [Appendix 3](#).

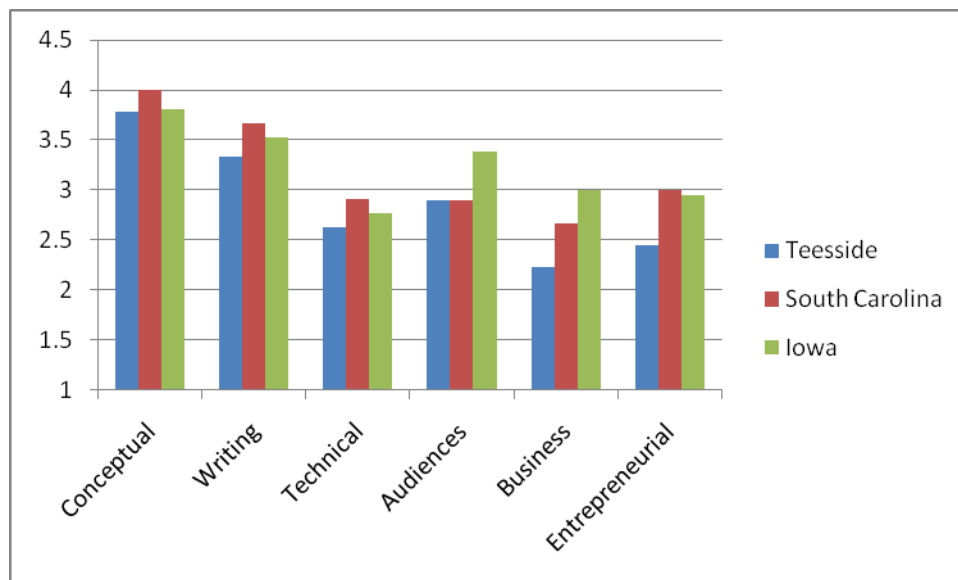
5.2 Survey Results

We will discuss the findings from the different panel surveys collectively where possible to compare perceptions of industry partners across countries. Due to the more informal nature of the survey in Sweden, no statistical results for this country have been included in the graphs below. However, comments made by the Swedish representatives have been added to the discussion of each graph where relevant. Scores in the figures represent average scores among panel members for each skill (1= not at all important, 4 = extremely important). More detailed findings on each survey separately can be found in [Appendix 4](#).

5.1.1 Most important skills

When asked to prioritize the core attributes identified through the international visits, the four panels agreed collectively that conceptual skills were the most important, followed by writing, understanding audiences and entrepreneurial skills (Figure 1). Differences between the panels were small but the panel members in Iowa valued ‘understanding audiences’ more strongly, while Teesside panelists put less emphasis on business skills and entrepreneurial attitude.

Figure 1. Importance of core attributes



The importance of conceptual skills is explained in the commentary of the surveys:

Story-telling, critical thinking and creativity are the principal drivers for building and entertaining audiences in all media. The ability to turn those ideas into effective distribution streams - i.e. the technology - is also critical but without the creative ideas, the technology is worthless (Teesside panel member).

While technical skills were still regarded as important they were considered less of a priority because they were teachable:

Other elements can be honed and learned when using equipment, working with more experienced producers etc., however without the conceptual ability a graduate is very limited in how they move through from university to the workplace (Teesside panel member).

The South Carolina panel awarded high marks to technical or ‘multi-media’ skills (average score 2.9), but hardly mentioned them in the following discussion among members.

The Iowa industry representatives included ‘understanding of audiences’ in their description of conceptual skills, arguing that ‘too much communication is now based on what the creator thinks and not on the impact and reach to the recipient’:

Without understanding the needs of the audience, none of the other skills are as important. For example, that brilliant copy will be ineffective if it doesn’t address the audience’s needs or get placed in the appropriate place for the audience to interact with (Iowa panel member).

Although entrepreneurial skills and attitude did not score high in the survey rankings, many panel members commented on the importance of recognizing new opportunities and being able to develop them. For instance, the Swedish panel emphasized awareness of the business environment as an important attribute of graduates but was also quick to add that this is difficult to teach:

General business economics, [such as] budget thinking and cost awareness, is of course a basic skill that everybody must have, but to teach business opportunities...well I don’t know ... [I am] having doubts that business opportunities can be taught within [the] education time frame (Gävle panel member).

This was echoed by the South Carolina panel:

I’m not sure entrepreneurial skills can be taught. It’s part of some people’s DNA (South Carolina panel member).

This might explain why this attribute was not perceived as a priority in education. The panel in Iowa was most concerned with entrepreneurship as many of the board members saw themselves as highly or completely entrepreneurial. The members stressed that this ability grew and developed out of ongoing experiences.

...it is more about teaching a person that failure is OK and to not be afraid to champion a solid idea, no matter your role...I find many young people are afraid of taking a chance on supporting new ideas, though this is one of the most connected generations in history (Iowa panel member).

They viewed the best way for students to learn this ability was by seeing entrepreneurial thinking in daily action during a range of interactions between students and practitioners, such as internships, co-ops, on-site tours, mentoring; professionals coming into the classrooms and experiential education (e.g: students devising and managing new projects). We will come back to this point at the end of this chapter.

In addition to the six core attributes, the panels highlighted social and organizational skills as highly relevant for graduates, emphasizing a willingness to learn as central to what makes interns stand out on the job.

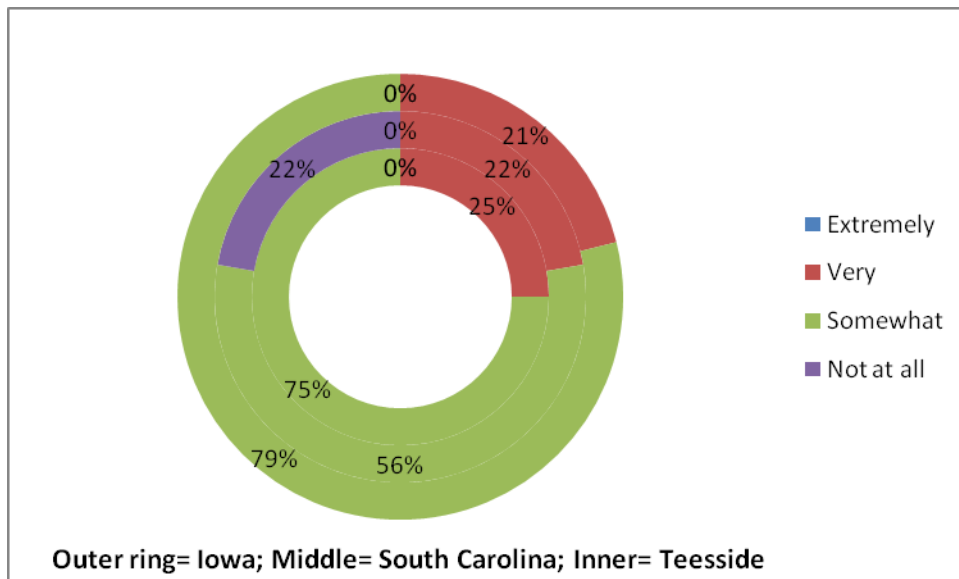
A willingness to learn and be taught. They have to accept that they are here to learn and grow. (South Carolina panel member).

The Swedish panel members added that the ability to work and function in project organizations, which included keeping deadlines and budgets and being able to explain the work to people not familiar with computer graphics, were key to being successful as an intern.

5.1.2 Preparedness of students

To assess how well students are generally prepared for working in the industry, panel members in each country were queried about their experiences with student internships. Figure 2 below illustrates that most panelists believe that students are on average somewhat prepared, with industry members in South Carolina expressing most serious concerns with 22 per cent stating that students are not at all prepared for working in the DCI.

Figure 2. How well prepared are student interns in general?



Panel members agreed that students were particularly ill prepared in terms of business awareness and entrepreneurial attitude, followed by conceptual and writing skills. The industry representatives were most content with students' grasp of technical skills. The panel in Teesside was relatively more positive about students' conceptual and writing abilities and less confident about their business and entrepreneurial aptitudes, while panel members in South Carolina were less impressed with the writing skills of their students but gave higher marks for business acumen. The representatives in Iowa thought their students possessed relatively more entrepreneurial skills.

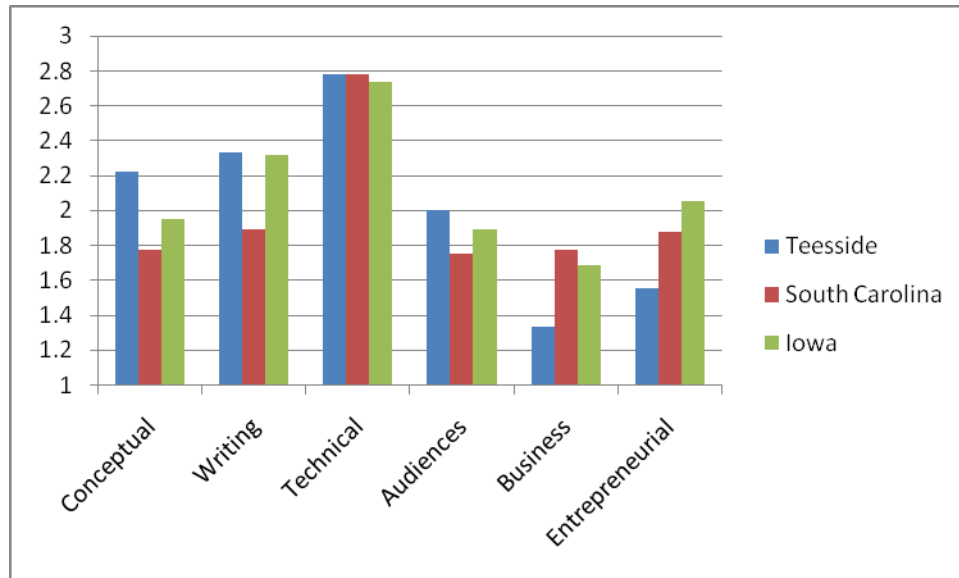
Preparation of students seemed strongest in less essential areas, while for the most essential abilities preparation was seen as lower. Feedback from one Teesside panelist was particularly worrying, suggesting a failure to engage with the media in which they might wish to work:

I'm afraid very few of our students have the necessary skills to properly benefit from their placement. Some cannot even spell or write properly, which renders any editorial involvement in our operation futile. Few read magazines or newspapers, or even watch television, and so cannot participate in meaningful development. Some are useful on location, but this is unlikely to be of benefit to them as much as seeing a creative digital company from the inside (Teesside panel member).

An ideal internship candidate was summed up as followed:

They need to be prepared with basic technical abilities required by the job; they need to understand how to get along with others (teamwork) and have some sense of corporate culture; and more important, they need to be resourceful and demonstrate an eagerness to contribute (Iowa panel member).

Figure 3. Preparedness of students in terms of core attributes

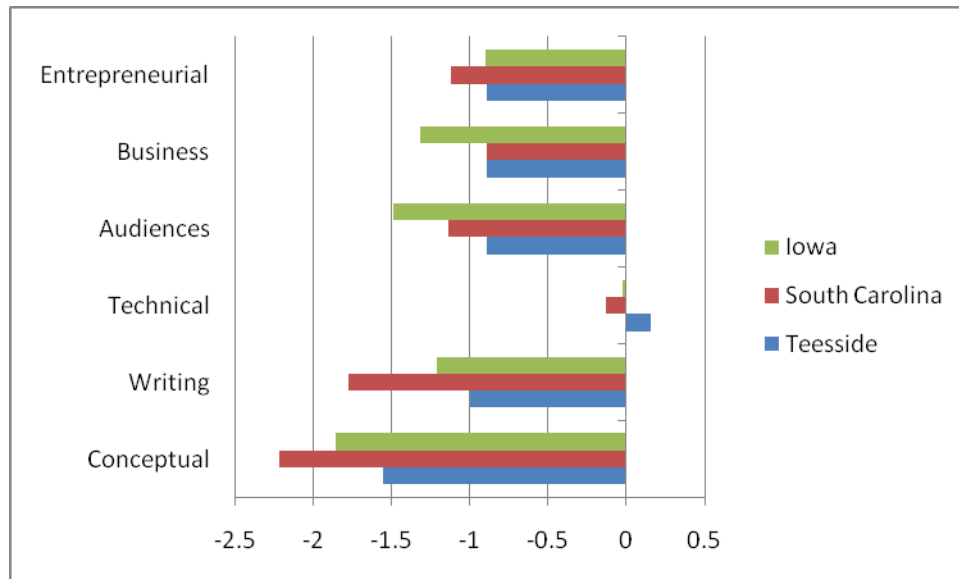


5.1.3 Skill gaps

The gap between expectations of panel members and their experiences of how well students are prepared in terms of these expectations becomes clearly visible in Figure 4 where the average scores on students' preparedness have been subtracted from the average scores on importance for each attribute. A negative difference means that students are less prepared than the importance given to that skill by the panel members with longer bars representing a bigger skill gap. The figure highlights that for most skills students are insufficiently prepared with only technical skills matching the expectations of the industry panels. The gaps are largest for conceptual and writing skills, particularly in South Carolina. Overall, the gaps are smallest for the Teesside panel, while the Iowa panelists perceive relatively bigger gaps among their students in understanding audiences and business skills.

Comparing Figures 1 and 3 demonstrates that there is almost an inverse relationship between the importance attached to skills by the panel members and their experiences of students' mastery of these skills through their university training. Conceptual and writing skills are most valued but students are least prepared for these skills, while their stronger technical skills are least valued by the panels.

Figure 4. Importance versus preparedness of core attributes



5.1.4 Reducing the gap: new partnerships

The final part of each survey assessed the ways in which higher education and the creative industries can develop new partnerships and further develop their current ones. Almost every panel member had experience in partnering with higher education usually involving, guest lecturing, hosting tours of their workplace and serving on a professional advisory board.

This reiterates a point made by the Swedish panel that existing forms of contact between industry and education are still valuable. However, many members felt that the interaction could be extended to more complex working relationships that provided a more interactive context for students to gain awareness of the business context, and developed their entrepreneurial skills through risk taking and collaborative projects.

[We need more] collaborating to work on the breadth versus depth of courses: organize students in groups that reflect a more realistic structure (planners, project managers, designers, programmers, writers) Have industry give feedback on projects work to strict, realistic deadlines (weeks not months) (Teesside panel member).

To facilitate this, some panel members argued for less stricter rules around teaching qualifications:

I think including more professionals in the classroom and getting the students into the agency environment is very important. Allow professionals to teach a class without having to have a Master's degree (South Carolina panel member).

All panels were clear about the mutual benefits of this interaction:

The student benefits from experiencing what it's like to work in a genuine professional environment where decisions and commitments about creative aspiration and execution, deadlines, budgets and time allocation have consequences. It hopefully helps students understand a bit more about responsibility to a team and a project rather than just themselves. Employers gain insights from direct contact with a key demographic with which they may not usually be in contact. This is particularly relevant in the media where new trends and changing habits often begin among younger people (Teesside panel member).

I have employed two out of four prior interns and a third is doing work for us on a freelance basis. We would not be in business without having interns who could contribute with introducing new software, showing which possibilities they have. That creates new markets and business ideas (Gävle panel member).

However, the industry representatives, particularly in the Iowa panel, felt that education needs to take the lead in nurturing the relationship, with industry playing some key roles in possible solutions.

It's really dependent upon the university to proactively develop relationships with industry partners. They need to demonstrate they can deliver great candidates and they need robust and active internship centers that are organized and well run. [...] Industry needs to be better informed about HOW and WHY to get involved with universities besides hiring interns and grads, sponsoring research, or providing charitable gifts (Iowa panel member).

In addition, they felt that university staff needed to leave the classroom more often to enhance their understanding of industry's working context. One board member's comment encompassed both dimensions:

I think it is wise for faculty to spend time at media sites – perhaps working in the summer themselves – to see the developments and challenges in today's media environment. Conversely campuses need to hold professional training seminars that can be taken advantage of by professionals around the area/state (Iowa board member).

5.2 Key findings from the Survey of Industry Panels

Industry panel survey results were generally consistent across the four partner institutions with some variation in priorities that reflected specific skills needs in sub-sectors:

- Conceptual skills clearly enjoyed the highest priority across the board, with writing and technical skills running close behind. Technical/multimedia skills were deemed somewhat more important in the EU than in the US, in part because of the difference in program emphasis.
- To our list of six core attributes, industry respondents added generic core employability skills, e.g.: teamwork, time-management, enterprising attitude.
- Most industry panel members thought entrepreneurialism could be taught or developed to a degree. Entrepreneurship was not prioritized as an attribute in graduates but more than half of our panel members saw it as part of their own profile.
- There was an overall sense that interns were not adequately prepared for the workplace – and that industry and universities need to work together on this. The survey found that preparation of graduates was almost in inverse proportion to the industry panel's ratings of importance.
- Industry panel members thought collaboration with higher education was important, but felt that universities should take on the responsibility of initiating relationships.
- Confidence in university faculties and their graduates was relatively low. Panel members felt that both faculty and student need more immersion in and a closer working relationship with industry.

Specific points to highlight from our findings are:

- University programs should continue to emphasize critical thinking and communication skills.
- Students should gain comfort and familiarity with multimedia tools, but should not prioritize learning these tools over critical thinking and communication.
- University programs should provide students with a basic understanding of their working contexts, including business skills and understanding audiences.
- The characteristics of entrepreneurship should be instilled in students, with the ability to take an entrepreneurial mindset into a job setting within an organization.
- Students should also build a sense of self-starting and teamwork from their educational and internship experiences.

6 Collaboration Case Studies

There are a number of ways in which Higher Education Institutions currently work in partnership with industry to enhance program delivery, ensure relevance and promote employability and entrepreneurialism. These include work-placements and internships of varying lengths, workplace tours, 'live' (or 'real world') projects and simulations and professional training hosted in the workplace. Individuals from industry are frequently involved in Higher Education as visiting lecturers, regular part time lecturers, mentors or members of advisory panels. In many instances, Higher Education institutions have involved industry partners and advisors closely in the design of new programs and the review of more established provision. The effectiveness and benefits of collaboration vary considerably, depending very much on the specific strategies employed, level of engagement by industry partners, resources and institutional support.

6.1 Compiling the Case Studies

The aim of this phase of the project was to compile an indicative, rather than a comprehensive, set of case studies indicative of the range of approaches to industry engagement to be found in modern Universities. This kind of research is necessarily impressionistic, however by assembling a range of case studies we were able to identify common themes as well as contrasting strategies.

Initially the group reviewed examples of industry engagement from within our own institutions, highlighting a diversity of approaches. We then expanded our study by means of a conference held in the UK in September 2012, which enabled us to examine a wider range of practices. For this conference, entitled *Bridging the Gap*, we invited representatives from Universities and their Industry partners to present case studies of collaborations, projects or strategies they had undertaken to help address the 'gap' between the undergraduate experience and the realities of a career in the media. Panels of employers, digital creative entrepreneurs and academics were also invited to discuss the challenges and opportunities for Higher Education and the industry in preparing the next generation to develop media businesses and the media sector. As a direct result of the conference, additional initiatives were brought to the attention of the panel, further extending the range of our research.

The program for the conference, with abstracts and speaker profiles are included as [Appendix 5](#) and [Appendix 6](#).

6.2 Case Studies from project partners

Teesside University presented a comprehensive range of activities exemplifying many of the different ways in which higher education can involve industry in program design, delivery and support; the *University of South Carolina* focused on one particular initiative designed to give the experience of addressing 'real world' briefs in a business environment; the *University of*

Iowa addressed the problem of up-skilling faculty and the *University of Gävle* shared some of the challenges involved in incorporating industry practices within an academic program.

6.2.1 Teesside: A strategic approach to graduate employability

Over the past ten years, the media faculty at Teesside University has taken a strategic approach to building relationships with industry – both locally and nationally – and to enhancing the industry preparedness and employment opportunities of graduates. The faculty maintains close relationships with a range of content creators and organizations, and indeed provides an increasing amount of continuous professional development and training to industry which helps us to track the evolving skills needs of the digital creative sector.

New programs have been designed and established programs re-designed with critical input from industry contacts. The development of the BA(Hons) Multimedia Journalism, for example, was undertaken in collaboration with the [Middlesborough Evening Gazette](#), while the recent re-development of the media production programs, drew on the expertise of companies such as [Standing Stone](#), [Endemol](#), [Third Films](#). All these companies continue to be integrally involved in the delivery of the programs, as are a range of other organizations such as [Channel 4](#), [BBCTees](#) and the national [BBC](#). Teesside has a formal educational partnership with the BBC. In addition, the institution was ‘adopted’ by major broadcaster [Channel 4](#) in 2011 as its preferred partner in education, ensuring regular guest speakers and career advice for students as well as up-to-date input into program design and teaching materials.

The BBC further supports the development of Teesside students by making available a number of ‘ring-fenced’ placements each year, for which students have to apply, pitch and interview. Unsuccessful applicants are given constructive feedback, while of those who are successful, the majority go on to maintain a professional connection with the corporation. In addition, we have recently set in place a mentoring programme whereby BBC employees are matched with first year undergraduates, and undertake to coach those individuals throughout their undergraduate career and beyond.

Another opportunity to develop industry experience and understanding is provided by ‘live’ or ‘real world’ projects. Journalism students build up a portfolio of published work, from a combination of their own blogs, a purpose-built [‘Tside’ news site](#), local newspapers and other professional outlets. Production students are required to undertake at least one commission from a real client in the course of their studies – although in practice many do much more, building up a varied portfolio of work before graduation

The University continues to support graduates in making the transition from education to industry, with a range of initiatives including paid graduate internships and start-up incubation.

The Digital Fellowship scheme, while not limited to Teesside graduates, is internally promoted to digital creative students, a number of whom go on to access this support each year. The University is also involved in offering a range of short courses to industry professionals in areas as diverse as software training and film funding, and partners with private providers to offer some specialist courses. One key partnership is with the internationally acclaimed Swedish company [HyperIsland](#), whose courses in digital leadership and strategy are accredited by Teesside.

6.2.2 South Carolina: The Carolina Agency

The University of South Carolina's School of Journalism and Mass Communications has an in-house full-service, student-run advertising and public relations agency called [The Carolina Agency \(TCA\)](#). TCA features "real work for real clients" as part of the experience allowing students the opportunity to develop portfolios and to immerse themselves in a client-centered agency environment.

TCA is affiliated with the Public Relations Student Society of America, ([PRSSA](#)), and the International Association of Business Communicators, ([IABC](#)) chapters. Students must maintain memberships with both organizations and comply with the stated rigor of the affiliation. They receive excellent opportunities for networking and exposure in their employment market.

Finished client work by TCA students may include strategic and tactical communications plans, flyers, brochures, PSAs, scripts, events, web sites, social media campaigns, and even annual reports. Students are invited to enter finished work in annual PRSSA and IABC professional level competitions. The competition preparation and the results, good or bad, provide opportunity for real world and basic entrepreneurial experiences as well as providing the springboard for integrating theory and course work into the marketplace. Each client is invited to provide the students with an evaluation of his/her work throughout the semester contributing significantly to the students' final course grade.

Besides client work, students are also assigned topics to teach on an introductory basis to their fellow TCA members. These topics include issues like: pre-press, buying and designing outdoor advertising, lighting for video, television and/or radio scriptwriting, social media use, web design, workplace professionalism, presentation design, event planning, etc. Presentations are delivered once a week by a rotating group of students and each lesson is archived for the students' reference at a later date. Guest speakers from the industry are encouraged to assist or present in lieu of the students, but in those cases the students are responsible for issuing the invitation and helping to manage the lesson plan.

6.2.3 Iowa: Analog Dogs and Digital Puppies

The School of Journalism and Mass Communication at the University of Iowa bears a long tradition of education in mainstream journalism dating back to 1924. For the new digital era of convergence multimedia, this was both a strength and a liability. Strength came from a well respected reputation in journalism education, with high national visibility for teaching core writing skills. The liability followed from that - the current faculty, nearly all tenured were not generally prepared for either the technical or conceptual skills for preparing students in the new media climate. These were old analog dogs with difficulty learning new digital tricks.

The School's new director identified this challenge even as he interviewed for the position - how to teach these analog dogs the new tricks that could prepare students for their budding careers? These dogs were somewhat reluctant to re-skill, and in fact faced a paradigm shift in thinking meaningfully about how to work with digital media.

The director took a two-pronged approach. First, the School launched a new multimedia class taught by a re-skilled analog dog, while also running several members of the faculty through a summer 'bootcamp' of digital media skills. Next, a more natural solution was developed, hiring four digital puppies fresh out of graduate school, the first such hires in nearly 20 years. Unlike the re-skilled analog dogs, these digital puppies brought both the technical skills and the innate understanding of how to work with an evolving and emerging media climate.

Paired with this effort, two new classes were offered: the introductory conceptual Social Media Today, and a first skills course, Introduction to Multimedia Storytelling. With these elements in place, the School had laid a foundation for bringing its students into the digital fold, going beyond the framework of traditional journalism offerings that integrated these tools while retaining the depth that those offerings brought to students' advanced abilities.

6.2.4 Gävle: Lessons learned from redesigning an educational program

This case study outlines some of the difficulties experienced by academics at the University of Gävle, in recent attempts to better align vocational degree programs courses with the realities of the Digital Creative Industries.

Graphic Storytelling (GS) and Creative Computer Graphics (CCG) are both successful programs, with high application and high finishing rates. They share considerable common ground, particularly in their focus on visual storytelling, and for several years students have been involved in a joint project, combining their skill sets with very good results in terms of theoretical and practical understanding as well as final productions. This project reflects industry practice, where concept artists frequently participate in movie projects, for example, and texture painters are involved in modeling. The inter-disciplinary work also reveals a breadth of talent in the students – showing that many CCG-students are great painters and have a deep interest in

developing those specific skills, while GS students often display an interest in and talent for animation.

It was therefore proposed to merge the two programs in order to extend students' opportunities for development and to better prepare them for careers in the DCI. The re-design process was initiated in the spring of 2011, with the goal of instating the new program in the autumn of 2013.

There were two possible approaches to the creation of a new digital arts program. The first would be the "inside the box" solution with classes taught in a traditional way, lecturers and students in a classroom setting and occasional guest lecturers from the industry. This version would start the students off with a common first semester and focus more on the specializations from the second semester onwards. While keeping initial costs down, and fitting the University template, previous experience suggested that the "common" first semester would lead to students becoming disgruntled and even leaving the program altogether.

The second approach was more innovative, representing an "outside the box" way of thinking about education: an economically sustainable model where industrial mentors would be brought in "remotely" and made available to the students by using a newly developed digital technique the HAWC [1]system. Utilizing the HAWC system would also allow for lectures conducted from different locations both nationally and internationally. One of the strong points with the second direction was keeping the industry close to the students "digitally" at a smaller cost. This approach would start with a combination of specialisms and common courses.

The academic team decided to go with this second solution, offering five named tracks through a broad program, with a combination of common and specialist courses. The small number of students on each track would be economically managed through remote, industry-led and project-based learning strategies. However the institution was resistant to this approach, partly because of financial concerns and partly because of doubts concerning the difficulty of tracking student progression in terms of clearly defined areas of knowledge through the program. The development of industry-relevant skills was not seen as a priority. Eventually a more traditional version of the design was adopted, with far fewer options for inter-disciplinary delivery, or project-based and fewer specialist tracks.

While the team still intend to develop the program more closely in line with their original proposals, the difficulties they have encountered along the way demonstrate some of the obstacles for Higher Education in preparing students for a rapidly changing industry.

6.3 Case Studies from the *Bridging the Gap* conference

At the conference, the *University of Iowa* and *Birmingham City University* presented their contrasting approaches to undergraduate internships and work placements, *Arts University College Bournemouth* and the *University of York* explained the benefits and challenges of co-location, and the *University of Bradford* shared their approach to accessing live industry briefs for their students. A different approach to this same challenge was subsequently presented by *Southampton Solent University*.

6.3.1 Journalism Internships at the University of Iowa

Internships are not a requirement for graduation at the University of Iowa School of Journalism and Mass Communication, however many of the organizations that hire graduates require a level of experience that can often only be achieved by participating in internships. Students are therefore encouraged to include internships as a component of their career development plan. Paul Jenson, the Internship and Placement Coordinator, is an experienced photo-journalist with excellent local press contacts which he uses to secure opportunities for students. He provides a range of support for internships including publicizing opportunities directly to students via listservs, and organizing speed networking events to connect students with potential internship employers. Several local employers come to the campus to interview and select interns. One such employer is Mike Wagners, News Operations Manager for [KCRG-TV9 News](#) and for [The Gazette](#) newspaper in Iowa City. Mike uses paid student interns throughout the year, many of whom go on to launch their careers working for him. He interviews and appoints all his interns for the year ahead at a single, University-based recruitment event. Mike's feedback on the interns' performance plays a valuable part in keeping the faculty up to date with industry needs and in informing future applicants.

6.3.2 Enhancing Employability at Birmingham City University

The Media Industry Outreach Project works with local media industry to identify what potential employers need and to assist in providing suitable students for placement and internship activities. The project was originally funded by an award from the Times Higher Education 2011 for Winning Student Academic Partnership Scheme, and employs two current students as Media Outreach Partners. These Media Outreach Partners have been working alongside staff to assist in developing a system and process for securing placement and internship activities for media students within local media business. The posts are advertised and promoted internally using BCU's Job Book site. The University then recruits and acts as the agent between the students and the placement provider.

6.3.3 Co-location and Collaboration at the University of York

This collaboration arose out of a proposal to make better use of the University's excellent technical facilities during 'down-time'. [Green Screen](#), a small production company specializing in CGI, was happy to work around student schedules in order to secure savings on production and post-production costs. There is now a formal agreement in place between the University for the support and production of commercial feature films involving facilities, knowledge transfer and student/graduate involvement. The first project, *The Knife That Killed Me* which is backed by Universal Pictures, started production in April 2012. The production is being supported directly with production equipment and postproduction facilities, including audio and picture finishing, from the Department of Theatre, Film and Television, and also involves six recent Masters graduates who are doing all visual effects work on the film. This collaboration has given rise to a broader academic research project looking at the perceptions, impact and effectiveness of student internships in the film industry.

6.3.4 Graduate opportunities at Arts University College Bournemouth

This collaboration came about as the direct result of a staff development initiative, whereby a member of the faculty undertook a 'return to industry' secondment at the Oscar-winning post production and visual effects house, Framestore. In a sector where many companies rely heavily on overseas labor, Framestore was seeking a regional outpost to its London headquarters, employing skilled British workers. ACUB was able to offer premises on campus, and a supply of new recruits from its highly respected degree and Master courses. Framestore was able to offer students training in company-specific software alongside the final year of their studies, and an entry-level job at the end of the course. The graduates work with a studio manager seconded from the faculty. Constant engagement with Framestore enables the faculty to ensure that the latest innovations and practice from industry inform and refresh its teaching practices on a continuous basis. Co-location, moreover, has brought a number of additional benefits to both AUCB and Framestore, including mentoring for students, PhD opportunities and the availability of 'experts' to advise designers on game aesthetics (for example those set in specific historical periods).

6.3.5 The Working Academy at the University of Bradford

The Working Academy is a scheme developed by the University to provide real commissioned digital projects for students, while linking them with an industry mentor. The projects tend to be substantial briefs from sizable companies but are typically associated with a research and development agenda, rather than being mission-critical for the business in question. The scheme is run by Simon Couth, an experienced and well-connected media professional employed by the University on a part-time basis. He is charged with prospecting projects from a national arena, agreeing project fees and terms, identifying both students and industry mentors and overseeing the process. The industry mentors are specialists who are paid to oversee individual projects and support the students involved. The students themselves are paid an hourly rate for their work.

This initiative has generated more than 40 commissions with a combined six-figure production budget.

6.3.6 Creative entrepreneurship at Southampton Solent University⁶

Southampton Solent works with a range of partner organizations to offer its students opportunities to gain experience both as employees and as entrepreneurs. The University has two initiatives, both set up with some financial support from HEIF (Higher Education Initiative Funding) but now becoming independently sustainable.

[Solent Productions](#) is a professionally run production company based within the University. It generates thousands of hours of work placement opportunities for media students on large corporate and broadcast projects. With an annual turnover of approx. £100,000 per annum, the organization operates as a social enterprise, undertaking charity / public sector work for non-commercial rates or pro-bono where it is to the benefit of the University or the students. An example of the former would be a series of training and information videos for the local NHS trust. A notable example of the latter would be the broadcast coverage of the Glastonbury Music festival which provides a large number of valuable student placements and high visibility of the University.

[Solent Creatives](#) is an agency, run by the University, which matches the creative needs of industry (websites, video, design, etc) to the talents of individual undergraduates. By undertaking fee-paying commissions through the agency, students are able to gain credits towards elective modules in freelancing available in years two and three. The scheme is run by a full time Project Manager who runs checks on prospective clients, identifies appropriate students for a given brief, then runs a 'matching meeting' between students(s) and client, at which he supports the student in negotiating a price and defining the parameters of the brief. The practical work is supported, where necessary, by academic staff, however the project manager will intervene in the event of any disputes of breakdown in student/ client communication.

6.4 Diverse models and common threads

Although all very distinctive, the modes of collaboration exemplified in the case studies could usefully be placed in four categories.

⁶ This project could not be presented at the conference, but the UK partners were subsequently invited to visit Solent to see the work.

- Industry involvement in program design and delivery – eg Gävle, Iowa, Teesside
- Student Internships and work placements – eg Iowa, Teesside, Birmingham City,
- ‘Live’ , quasi-professional projects – Teesside, South Carolina, Bradford, Solent
- Co-location and complex partnerships – York, Arts University College Bournemouth

6.4.1 Benefits of collaboration

Different forms of industry collaboration and business engagement industry brought different benefits to students, universities and industry - but all make substantial contributions to preparing students for careers in the sector. That some initiatives involved overlapping categories of collaboration is indicative of the degree to which the benefits of partnerships between higher education and industry can multiply, often in unexpected ways.

The benefits of involving industry in program design are illustrated by the multimedia journalism degree at Teesside. The range of skills and competencies addressed in the program, the delivery of which combines traditional journalism with multimedia skills and entrepreneurship, gives graduates a ‘competitive edge’ in a crowded market. 75% of students graduating in 2012 progressed directly into jobs in areas of journalism, communication and media- a particularly high percentage in a region disproportionately affected by the economic downturn.

The benefits of internships and work experience for students are well documented, but the relationships developed with industry partners can have further advantages for universities. This is illustrated by the case study from Iowa, where the close relationship with local media provides for useful feedback to the faculty.

‘Live’ projects undertaken by students for clients bring a range of potential benefits, depending on the structure within which they work. At South Carolina, for example the students operate very much as a professional agency, gaining business and networking skills as well as developing their creative portfolios. At Solent, students operate as freelancers, negotiating fees which are generally payable only on successful completion of a project. At Bradford, project supervision by an industry mentor enables students to take on much larger commissions – and larger clients – and to become familiar with professional working practices. It also provides them with a valuable contact and a possible route into employment.

Complex partnerships involving co-location, use of facilities etc are often predicated on one set of specific benefits, for example internships or graduate employment, but have the potential to bring others, such as the research and knowledge transfer opportunities being developed at Bournemouth and York.

6.4.2 Common issues to be addressed

A number of interconnected issues emerged from the case studies which need to be addressed in relation to any successful initiatives of this kind. These are:

- Ethical considerations with regard to the potential exploitation of students, or of publically funded university resources.
- Ethical considerations with regard to the potential for unfair competition with local businesses – particularly those run by our own graduates.
- Legal considerations, particularly with regard to intellectual property.
- Quality control in terms of student output for paid brief, student experience, and industry experience.
- Resourcing and sustainability of initiatives, on the part of both universities and businesses.
- Cultural differences and particularly different expectations with regard to pace and time-scale between universities and businesses.

The case study from Iowa exemplifies alternative ethical approaches to student internships. Some of the employers the University works with, such as KCRG-TV9 News, pay their student intern. Others, who do not, will insist that students pursue academic credit; the University makes provision for them to do so.

York University provides an example of a partnership that involves the commercial exploitation of physical resources. The specialist facilities for the Department of Theatre, Film and Television were built with money from the European Regional Development Fund, the terms of which require the University to utilize the resource to support, but not compete with, local businesses while generating income. By hiring out facilities at generous rates but only during down-time, the University complies with this requirement in a way that benefits its partner organization and its students.

Ethical issues around unfair completion and under-cutting the digital creative industry are particularly critical in relation to 'live' projects. Teesside University has developed a protocol for external projects which distinguishes between appropriate and inappropriate projects for students to undertake 'pro-bono'. This highlights both the pedagogical benefits of the project to the student and the commercial status of the commissioning organization. Bradford stresses that projects undertaken must be 'non-mission-critical', for example developing prototypes. By paying industry mentors to supervise the project, and giving them access to potential future

clients, the University ensures that the ‘Working Academy’ supports, rather than undermines, DCI businesses. At Solent, meanwhile, the faculty believes that the provision of low-cost, low-risk creative services to organizations who might not otherwise have utilized such services helps to stimulate demand in the currently under-developed local DCI sector.

Initiatives vary a great deal in terms of legal complexities. York, for example, works with industry partners through a separately constituted trading arm, and its partnership with Green Screen, like that of AUCB with Frameworks, is legally complex. However even quite simple relationships such as those involving simple live briefs, may raise issues of confidentiality and intellectual property. The experience of all faculties involved in such work was that it was important to be very clear about arrangements regarding ownership and rights at the start of each relationship, particularly given the inexperience of students.

Quality was a fundamental concern for all initiatives. The effectiveness of industry input to program design and delivery depended on the right ‘match’ between industry and institution. One example would be that of Gävle University, where geographical location makes it impractical for students to benefit from regular mentoring or visiting lectures from a wide range of industry professionals. The HAWC system, developed to enable industry collaboration in a similar environment will also provide an appropriate platform for online mentoring around effects and post-production work.

For internships to be successful employers need to have appropriate expectations of students, and students need to be engaged in meaningful work. The ongoing, two-way communication fostered by long-term relationships, such as that between the Internships Coordinator at Iowa and the Operations Manager at KCRG-TV9 News are the most effective way of guaranteeing consistently productive internships. Communication is also key to the success of ‘live’ briefs. The role of the Project Manager at Solent, for example, is crucial in underpinning the quality of the student experience on projects as well as the quality of the outputs for clients. As with internships, managing the expectations of both businesses and students is an important part of project coordination.

The need for careful management of all forms of collaboration and partnership raises the important issue of resourcing these initiatives, and the attendant issue of sustainability. There were as many models as initiatives, however it was clear that successful partnerships involved a degree of investment from universities. The success of the internship programme at Iowa is largely dependent on the University’s investment in an experienced, well-connected part-time coordinator. The innovative approach at Birmingham City, meanwhile, involved employing student interns to organise internships – a riskier strategy but one that potentially multiplies the return on the University’s investment. Solent Creatives is run by a Project Manager with a digital creative background, supported by student interns running reception, and academic staff allocated time to work on the ‘freelancing’ modules associated with the scheme. Bradford, on the

other hand employs a part-time academic specifically to run the ‘Working Academy’, along with the industry mentors appointed to projects, covering the cost of both from project fees. Students undertaking projects at TCA at South Carolina can pursue academic credits and also undertake to teach fellow students as part of their involvement. Finally, to ensure the smooth running of the complex collaboration at AUCB, a member of the faculty is permanently seconded to Frameworks as a Studio manager.

All academics and industry representatives involved in partnerships reported degrees of cultural dissonance between the two sectors. Despite the fact that many members of faculty come from industry and are familiar with the ethos of relevant business sectors, adapting to the working practices and pace of industry proves challenging for Higher Education Institutions. The difficulties experienced at Gävle, in this respect, are not untypical. The success of the partnership at AUCB depended on the ability of the University to respond to Framework’s needs within a six month timeframe, in a deal negotiated by Creative Skillset. At Teesside, where collaborations with private provider HyperIsland have been made possible through a comparatively swift and progressive quality system, it has nevertheless been challenging for the University to operate at a speed commensurate with the company’s business model.

6.5 Key findings from the Case Studies

- The benefits of collaboration are wide-ranging, often including additional unforeseen benefits arising out of relationships between HE and Industry.
- Universities and their partners need to take into account a range of ethical, legal and resource issues as well as issues of quality and culture in forming collaborative relationships.
- The key to successful collaboration lies in communication and the building of strong relationships.
- Successful collaborations involve a significant investment in terms of time and expertise, which may have resource implications for universities.
- Sustainable models of collaboration need to take all these factors into account.

7 Conclusions & Recommendations

The rapidly expanding digital creative industries provide many opportunities for new graduates, and indeed need their contribution to develop. The pace of change at the level of technology within these industries impacts on every other aspect of business, creating the demand for a highly skilled, creative, flexible and enterprising workforce. Universities have a key role to play in ensuring that graduates are adequately prepared to take advantage of the opportunities available to them, and to play a productive part in the digital creative economy.

New entrants to these industries need to be creative, critical thinkers, with up to date technical skills, strong business awareness and an enterprising attitude. Employers and graduates alike, however, have identified a 'skills gap' which needs to be addressed. It has been convincingly argued that collaboration between higher education and industry is an effective strategy for ensuring the ongoing relevance of vocational programs, and for developing skills and understanding particularly in areas such as business awareness and the understanding of professional cultures.

Effective, sustainable collaborations, however, require a considerable investment in communication and relationship building as well as a real will to succeed on both parts.

7.1 Discussion: Skill-set versus Mindset

One discussion that has emerged over and over again in our exchanges with industry, graduates and academics alike is the relative importance of technical skills and so-called 'soft' skills. There were apparent contradictions between the views expressed by contributors to different stages of the project. During the four sets of meetings, there was an emphasis on technical skills and an up-to-date appreciation of the implications of new technologies for audience behaviours and business models. When asked to prioritise skills for the survey, however, most members of our industry panels focused on broader 'soft' or 'transferable' skills such as critical thinking.

We interrogated the panel at Bournemouth about this and their responses reinforced certain patterns we had observed. To a degree responses were sector specific – thus, predictably, in the areas of visual effects, interactive and games there was a greater premium on technical ability than in TV and film production or journalism. While this partly reflects the nature of the work, it also speaks to the value placed on relatively scarce resources. As one speaker from the games industry remarked, the culture of that industry is not as well established or familiar to new entrants, and the necessary technical skills are not as readily available. Television and film production also require high levels of technical skills, and journalism requires highly developed writing skills, but employers in both fields are more likely to take it for granted that graduates will be reasonably well equipped with regard to these areas of competence. When asked to prioritize skills, therefore, they are more likely to focus on areas of common weakness such as business awareness and a realistic understanding of work-place practices and expectations.

Nevertheless there was a fairly consistent emphasis across sectors, specialisms, geographical regions and project phases with regard to the importance of creativity and an entrepreneurial approach to work (whether or not explicitly described as such). These qualities are critical not only in term of short-term employability, but for the longer-term career prospects of graduates. They are likewise critical to the development of the digital creative industries themselves.

This has far-reaching implications for Higher Education as institutional cultures, predicated on assessment, are often inimical, or, at the very least, less than conducive to the development of these qualities. To address this issue, universities need to develop models of collaborative and problem-based learning, and models of assessment that reward innovation and risk. Above all they need to devise contexts within which student can fail safely and successfully. Industry partnerships can have a valuable role to play in meeting these challenges

7.2 Recommendations

Based on the information gathered for this project, seven recommendations follow for Higher Education institutions offering vocational programs in digital creative disciplines:

1. Change the culture of the academy at all levels to support and foster creativity and entrepreneurialism allowing students to see long-term success from short-term failure.
2. Adapt the culture of the academy to better engage with industry.
3. Keep pace with industry practices, ideally moving into a position to lead change and development.
4. Teach students a balance of conceptual thinking and practical skills aimed at both entry level jobs and long-term employability, including such skills as communication and teamwork.
5. Explore and learn from existing best practice models of collaboration.
6. Promote better mutual understanding between industry and higher education.
7. Initiate, invest in and develop stronger working relationships with industry.

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Appendices

Appendix 1: Existing case studies of HE/ Industry Collaboration

UK, Swansea Metropolitan University: Swansea Metropolitan University (SMU) has taken the national lead in both the development and delivery of teacher training for enterprise and entrepreneurship and as a result achieves 80% student engagement in their curriculum-based enterprise activities. SMU also has one of the highest survival rates of graduate start-ups in the entire of UK.

France, EPF Engineering School: At the EPF Engineering School in France each year 36 engineering students run a real company that designs, produces and sells mid-range/high-standard pens. Each year they have to develop a new product and give their best to make the company grow. Over a six month period every student takes a job in the different departments of the company.

Spain, Polytechnic University of Catalonia: *The INNOVA24* program of the Polytechnic University of Catalonia in Spain is open to all students, faculty, graduates and staff. The aim is to take innovative ideas generated in the university, and turn them into businesses. The program is run by a support centre for the creation of technology-based firms, with the involvement of the universities and business schools of Catalonia. So far the INNOVA program has helped create 197 technology based companies.

Wales, Entrepreneurship Champion program: Every university and college in Wales today has its own “Entrepreneurship Champion”, funded by the Knowledge Exploitation Fund (part of the Wales Assembly Government). The senior members of staff are committed to promoting a new culture of entrepreneurship among students and academics. Their role includes building entrepreneurship into the curriculum and establishing support networks for local entrepreneurs and students.

Scotland, The University of Abertay Dundee: The University of Abertay in Dundee has been directly responsible for the rise of the games industry in Dundee where it secured 3,800 jobs, and £40 million in annual sales from over 380 businesses. The university has adopted a “research-informed, multidisciplinary, studio-based workplace simulation, with industrial mentoring” as the basis for all of its courses. Their courses also include an industry-led Masters in Professional Practices. The games industry is one which has generally strongly benefited from collaboration with universities

Australia, QUT Creative Enterprise Australia: QUT Creative Enterprise Australia (CEA) has since 2003 equipped emerging businesses with the skills required for creating and managing

their success. It provides access to leading technology and office spaces, as well as connecting clients with the right networks to foster opportunities.

New Zealand, YES Innovation.Hub: The YES Innovation.Hub is a virtual community designed for students and teachers. YES students can plan their business, advertise, share ideas, and enter national competitions. The teachers of YES schools can also use the site to share classroom resources, monitor students progress and participate in discussion groups.

USA, University-Industry Demonstration Partnership (UDIP): The University-Industry Demonstration Partnership (UDIP) was established in 2006. It is an organization of universities and businesses who seek to form collaborations. It provides a forum for them to network and implement future strategies, and serve to help representatives from each side gain a better insight and understanding of their industry counterparts. Today it has 75 members, of which 50 are universities, 20 companies as well as government representatives. UDIP Universities include Arizona State University, Colorado State University, California Institute of Technology, University of Washington and the Ohio State University.

USA, University of Southern California Annenberg Innovation Lab: The USC has recently opened an interdisciplinary laboratory to study digital media and develop software prototypes and business ideas to advance journalism and communications. The new facility, the [Annenberg Innovation Lab](#), will focus on social networking, the future of journalism on digital devices, and other emerging areas in digital media. It aims to create collaborations among corporations, journalists, professors, and students in Southern Cal's Annenberg School for Communications & Journalism. The lab, sponsored by corporations such as Verizon Wireless, IBM, and Mattel, will loosely follow the model of interdisciplinary media programs like the Massachusetts Institute of Technology's Media Lab, . The new project has already won \$1-million in sponsorships from corporations like Verizon Wireless, IBM, and Mattel, but will focus on the immediate applications of new technology and the study of its effects, rather than on building new inventions as the MIT lab does. Initial projects will include finding ways to extend journalism and academic research using semantic-search technology, geo-tagging and other geographic data to envision new forms of local journalism.

Appendix 2: Contributors interviewed during the four visits

Visit to Teesside January 2011

- ‘Digital fellows’, past and present, who have utilised the support of the fellowship scheme to set up their own businesses in a range of ‘digital creative’ areas including film, television, games and marketing:
 - Filmmakers Tom Marshall and Matt Robodoza-Hallows,
 - Adam Green of [Assyria Game Studio](#)
 - Jeremiah Alexander of the digital agency [Ideonic](#)
 - Content creator Fiona Birkbeck of [Multiminded](#)
 - Georgia Rakusen, a former fellow now working at [Screenreach](#).

- Marc De Launay supports fellows in his role as ‘digital mentor’, in addition to running his own company [Mandragora Productions](#).

- Tony Johnson, Head of Training at the [Press Association](#), which, alongside its better-known role as a provider of agency copy, also offers professional training and continuous professional development for journalism professionals both in the UK and overseas.

- Carrie Cunliffe, Head of Sector Development at [Codeworks](#)⁷ a publically funded organization devoted to supporting the digital and commercial creative sector in the North East of England.

- Sam Stamp, Operations Director at [Northern Film & Media](#), which supports the film and television industries in the region.

Visit to South Carolina April 2011

- Alan Cooper, a publisher, runs [MidlandsBiz](#), an online business magazine for the region.

- Joel Stevenson is Executive Director of the [USC Columbia Technology Incubator](#), which focuses on business start-ups in technology, business and engineering.

⁷ Codeworks has since merged with The Hub to become the [Digital Union](#).

- Russ Keller is Vice President of the [South Carolina Research Authority](#), a not for profit organization which supports research into and commercialization of new products and services that may be of use to government or the public.
- Panel Discussion:
 - Greg Hilton, Project Manager at [Engenuity SC](#), a public/private partnership devoted to growing the knowledge economy in the region
 - Lonnie Emard, Executive Director, of [IT-ology](#), a collaboration of businesses and schools supporting the development of IT talent and promoting the IT profession.
 - Katie Fox, Theatre Manager at [Midlands Technical College](#), provides artists with business support and training
 - Sherard “Shekeese” Duval, is a television and film producer
 - Keely Saye is a marketing specialist and social media entrepreneur
- Dr. Doug Woodward is Director of the Division of Research within the [Darla Moore School of Business](#). The division conducts practical research on timely topics, including a [recent study](#) on the scope of South Carolina’s small-business and high-impact job creation over the past two decades.
- Tom Ledbetter, Associate Vice President of [Midlands Technical College](#) is an Economic Developer tasked to bring industry to the area and facilitate the creation of jobs.
- Ashleigh Brooker is a business consultant at the [Small Business Development Centre](#), providing financial support and advice to small business owners.
- Bobby Hitt, Secretary of Commerce for the South Carolina legislature.
- Harris Pastides, President of the University of South Carolina.
- Katherine Swartz is Executive Director of [COR \(Columbia Opportunity Resource\)](#), a networking organisation for young professionals.
- Fred Monk is President of [The Export Consortium](#), which helps businesses in the region find new markets.

Visit to Gävle June 2011

- Håkan Karlsson. Film editor and cofounder of [HAWC international](#) developing the HAWC-system which is a platform to support co-operative work between creative people independent of location and time.

- Ulrik Jansson. [Högskolan i Gävle](#) and [Baringo](#). Ulrik, who teaches at the University as well as running his business, talked about the opportunities and incentives for student entrepreneurship in Sweden.
- Roland Norgren, [GIS \(Geographical Information System\) Institute](#), the national center in Sweden for geographic information in the digital age. [Gävle Technology Park](#).

Visit to Iowa City September 2011

- Nick Lindaman and Dustin Bigelow, entrepreneurs and co-founders of [Hawk City Productions](#), an independent video production company in Iowa City.
- John Altenbern, President of [Crawford Johnson & Northcott](#), a media research and consultancy firm in Des Moines, Iowa, and also Chairman of the UI School of Journalism and Mass Communication [Professional Advisory Board](#) that provides advice on UI course curriculum.
- Steve Buttrey, Director of Community Engagement & Social Media for [Digital First Media](#), a company that advises on digital newsgathering and dissemination, and adjunct faculty member at American University School of Communication, Washington D.C.
- Patrick Riepe, digital editor, [Iowa City Press Citizen](#) a local newspaper in Iowa City, Iowa and member of the adjunct faculty at the UI School of Journalism and Mass Communication.
- Paul Jensen, [Internship and Placement Coordinator](#), UI School of Journalism and Mass Communication – responsible for initiating and maintaining contacts between students and potential employers.
- Peter Sprague, Chairman of Premier Media Holdings and staff of [Premier Guitar](#) - a newer publication in the guitar world that is innovating with its blend of traditional and digital media elements.
- Lyle Muller, editor and staff of [Source Media](#) – a privately-held multi-media news company that publishes the *Cedar Rapids Gazette* and owns and operates KCRG-TV9, an AB- affiliated television station serving Southeastern Iowa.

Vocational Education and Training for the Digital Creative Industries Exit this survey

1. Assessing Core Attributes
Our initial research suggests that a set of 6 Core Attributes are necessary for successful career entry after earning the bachelor's degree. We have defined these as...

Conceptual Abilities
- storytelling, problem solving, critical thinking, creativity

Writing Skills
- creating original content, editing copy

Technical Skills
- eg cinematography, sound recording, web design, programming

Understanding Audiences
- relationship building, usability, strategic communication

Awareness of Business Environment
- business models, strategic planning, economic context

Entrepreneurial Attitudes
- pioneering spirit, originality, risk taking, passion

Please rate the importance of each

	Not at all Important	Somewhat Important	Very Important	Extremely Important
Conceptual Abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding Audiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awareness of Business Environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entrepreneurial Attitudes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Of the 6 CORE ATTRIBUTES, which do you see as the most important?

Conceptual Abilities

Writing Skills

Technical Skills

Understanding Audiences

Awareness of Business Environment

Entrepreneurial Attitudes

3. What considerations helped shape your choice of the most important CORE ATTRIBUTE?

4. Would you modify our list of CORE ATTRIBUTES in any way?

Appendix 3: Sample survey (Teesside panel)

Vocational Education and Training for the Digital Creative Industries Exit this survey

Working in Partnership

Our initial research suggests that many employers feel that graduates are often unprepared for the realities of the workplace. Industry contributions such as internships, work placements, professional mentors, "live" projects and visiting lecturers, however, can enhance students' career success. This section concerns your views and experiences in these areas.

5. How much experience do you have in SELECTING students for internships/placements?

None

Some

Quite a lot

6. For which kinds of positions do you usually use student interns?

7. How much experience do you have in TRAINING/SUPPORTING student interns?

None

Some

Quite a lot

8. In general, how well prepared have you found student interns?

Not at all Prepared

Somewhat Prepared

Very Prepared

Extremely Prepared

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Vocational Education and Training for the Digital Creative Industries Exit this survey

9. How well prepared have you generally found student interns in core attributes?

	Not at all	Prepared	Somewhat	Prepared Very Prepared Extremely
Conceptual Abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical Abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding Audiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Awareness of Business Environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Entrepreneurial Attitude	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. What skills, abilities and attitudes do you see as important for a successful student internship/placement?

11. Besides internships, do you have any of the following experiences partnering with universities?

- Visiting speaker (in person or electronically) to classes
- Visiting speaker (in person or electronically) to student organisations
- Teaching a class as a regular part time lecturer
- Hosting tours of your workplace
- Hosting training sessions at your workplace
- Serving on a professional advisory board
- Mentoring students
- Setting and giving feedback on "real life" assignments

Other (please specify)

Vocational Education and Training for the Digital Creative Industries Exit this survey

12. How involved are you in partnering with higher education in your industry?

- Not at all involved
- Somewhat involved
- Quite involved
- Heavily involved

13. Do you think students placements and other forms of partnership benefit...

- Only the student
- Mainly the student but with some benefits to the employer
- Both student and employer
- Not beneficial

14. Please give a brief explanation of your last answer, based on your own experiences

15. Can you suggest ways in which universities and industry partners might work together productively in the future?

Vocational Education and Training for the Digital Creative Industries

Exit this survey

Teaching Entrepreneurship
Educators face a dilemma teaching entrepreneurial skills. There is a long-standing debate about (a) whether entrepreneurship can be taught, and if so, (b) whether the university is the best place to be teaching entrepreneurship.

16. How would you define entrepreneurship within the context of your industry?

17. To what degree do you believe entrepreneurship can be taught?

Not at all
 Believe somewhat
 Believe strongly
 Believe fully

18. How can your industry help students learn entrepreneurial skills?

Prev Next

Vocational Education and Training for the Digital Creative Industries

Exit this survey

About You...
Some information about your background will help put your answers into perspective.

19. How would you describe the industry you work in?

Journalism
 Public Relations
 Advertising
 Marketing
 Film
 Broadcast Media
 Digital Media
Other (please specify)

20. Which option best describes your organisation's mix of traditional and digital media?

All traditional media
 Mostly traditional media
 Split about evenly
 Mostly digital media
 Entirely digital

21. To what degree do you see yourself as entrepreneurial?

Not at all
 Somewhat entrepreneurial
 Highly entrepreneurial
 Completely entrepreneurial

Prev Next

Vocational Education and Training for the Digital Creative Industries[Exit this survey](#)**22. What formal qualifications do you have IN YOUR FIELD?**

- None
 Professional diploma/qualification
 Bachelor's degree (BA or BS)
 Master's degree (MA or MS)
 Doctoral degree (Ph.D.)

Other (please specify)

23. How many years have you worked in your current industry?**24. What is your current job title?****25. Any other comments about training students, industry-higher education partnerships or entrepreneurial skills?**

Thank you for your responses!

[Prev](#)[Done](#)

Appendix 4: Detailed survey results by institution

1. Teesside Panel

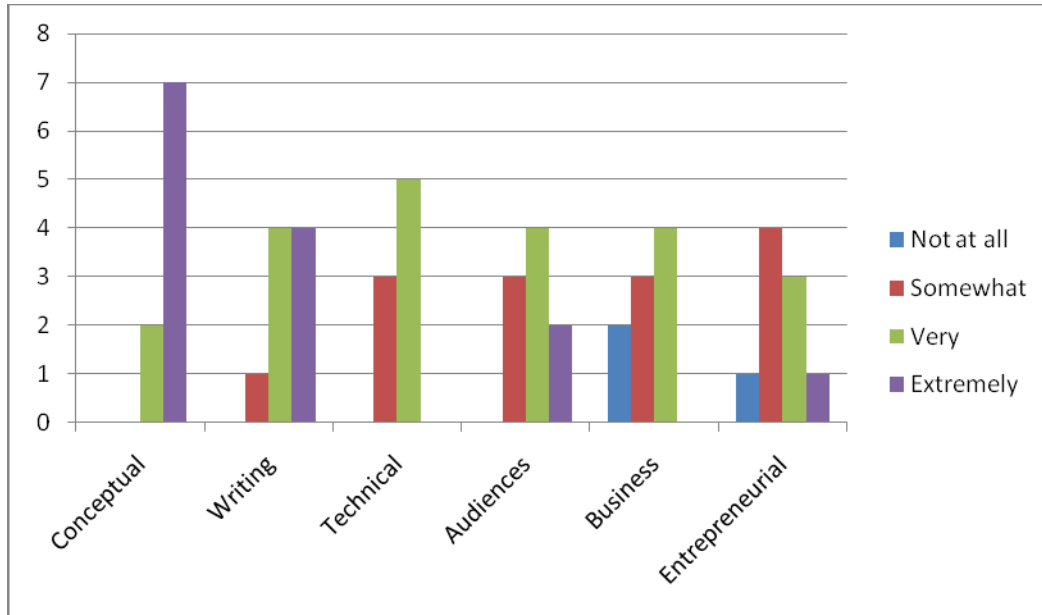
Teesside undergraduate programs span a range of disciplines, and the faculty is well connected throughout the DCI both regionally and nationally. It was therefore both desirable and feasible to put together a broad panel, including film makers working in a variety of institutional contexts, television producers working across a range of genres, news editors working across platforms and for local, region and national titles and producers of interactive media. Our sample size was small (just 12 participants), but comprised of individuals who were sufficiently interested in the subject to give considered and useful answers to the questions.

The online survey of our industry panel provided 11 responses. Out of these, 4 worked in the broadcast media, 2 in the newspaper industry, 3 in the digital creative agency industry and 2 in the film industry. Eight described their organizations as a mix of mostly traditional media or split about evenly. Relevant work experience ranged from 17 to 35 years, with a median of 22 years. Most held-high positions were CEO, head of talent and director, and three described themselves as producers. Six panelists hold a Bachelor's degree in their field, three professional diploma/qualifications, one a master's degree and one holds doctoral degree. Regarding entrepreneurship, 5 saw themselves as "highly entrepreneurial", 3 as "somewhat entrepreneurial" with only 1 describing themselves as "completely entrepreneurial"

A note on response rates: although 11 surveys were completed, every respondent did not answer every question, with the result that all responses to a given question may not total 11.

1.1. *Assessing Key Skills*

One essential finding from our survey concerns the six core skills for training necessary for successful career entry. When asked to rate the importance of each, 9 out of 11 respondents identified Conceptual Abilities as Very Important or Extremely Important. Writing Skills followed closely with 8 mentions, and Technical Skills received 5 mentions. The remaining Understanding Audiences, Awareness of Business Environment and Entrepreneurial Attitudes all gained 4 mentions each ranging from Somewhat Important to Very Important.

Table T.1. Panel members' ratings of the importance of the six core attributes

What stands out in Table 1 is that Conceptual Abilities and Writing Skills seem to provide a foundation for the rest of the remaining skills. When asked which of the six core skills the panel regarded as the most important, 7 out of 11 respondents agreed that conceptual abilities are the most important, with Understanding Audiences gaining two mentions.

When asked what considerations helped shape the panel's choice a few key ideas arose with emphasis on Conceptual Abilities, often referred to as critical thinking and creativity. One panel member said:

This is the central requirement of working in the creative industries along with the ability to communicate. Young people are sometimes very narrow and inward-looking and a wide-ranging world view is important. Lack of knowledge is less important than a willingness to learn and to engage. This should include a willingness, and ability, to listen and not regard conversation as a series of points to be won....35 years experience as an employer: but we're still in need of creativity and storytellers.

Another panel member explained:

Story-telling, critical thinking and creativity are the principal drivers for building and entertaining audiences in all media. The ability to turn those ideas into effective distribution streams - i.e. the technology - is also critical but without the creative ideas, the technology is worthless.

While Technical skills are still regarded as important they are considered as skills which can be teachable. As one panel member summed it up:

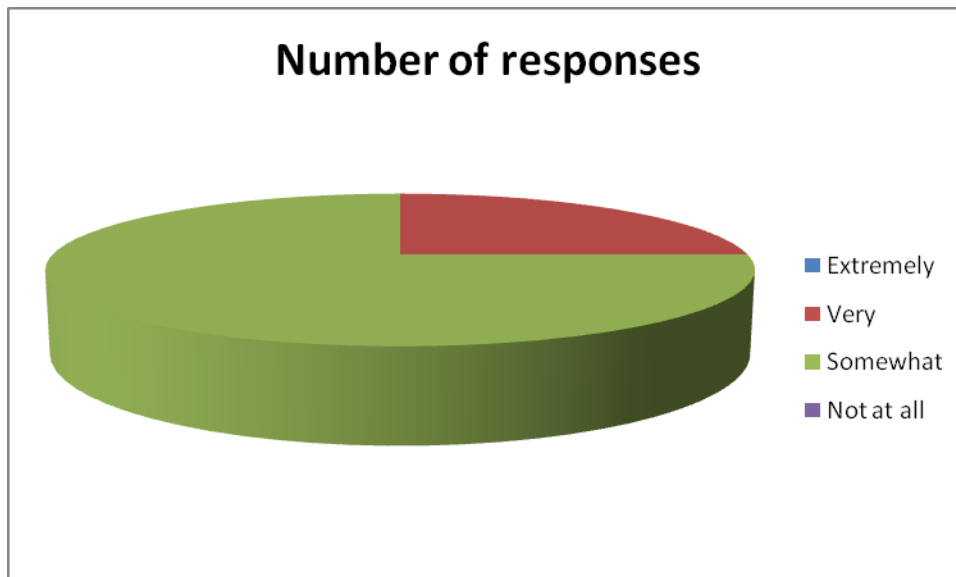
Other elements can be honed and learned when using equipment, working with more experienced producers etc, however without the conceptual ability a graduate is very limited in how they move through from uni to the workplace.

These findings suggest that while Technical skills can be taught, the key skills which need to be firmly in place are those of Conceptual Abilities and Writing Skills. These two core attributes seem central to all the five remaining ones needed to succeed in the industry.

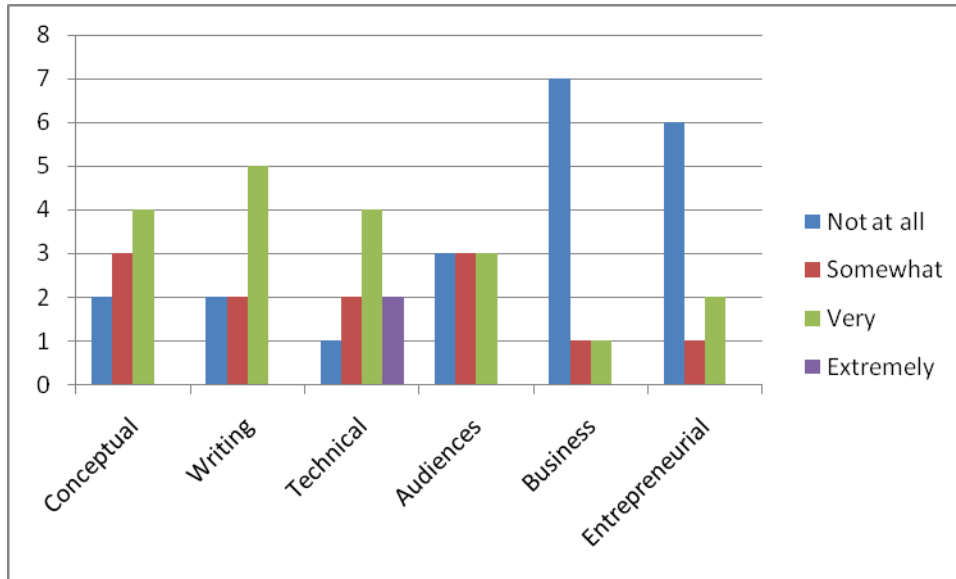
1.2. Assessing Training Outcomes

Only 1 out of 11 panel members lacked experience in selecting students for internships and placements. Five panel members had some experience, with 3 having quite a lot of experience in selecting interns. Overall the panel members agreed that students are only Somewhat Prepared for their internship and placements, with 1 panel member finding them Not at all Prepared.

Table T.2. In general, how well prepared have you found student interns?



When asked how well prepared they felt that the student interns were in their core abilities they found students being strongest when it came to Writing, Conceptual and Technical abilities. This suggests that around half the panel consider student interns are on some level prepared in the core attributes identified as the most important ones in our previous assessment.

Table T.3. Board members' perceptions of student preparation in terms of the six core attributes

When asked what skills and attributes they regarded as important for a successful student placement almost all panel members mentioned the core abilities, placing particular emphasis on the attitude of the intern. The ability and willingness to learn, along with writing skills, are considered the central thing that will make the interns stand out on the job. As one panel member put it:

Everybody decries it but the best student intern role remains the 'runner'. So the skills you need to have to be a runner aren't ever going to be high. What counts are enthusiasm and team-playing, and ambition and livability/communication-skills to make the most of this foot-in-the-door

Several members of the panel agreed:

The student must be fired with passion for the industry, willing to contribute at every level, and must be willing to learn. Unless the student has storytelling abilities, he/she will have no future in the industry.

Ability and willingness to learn; ability to communicate ideas; willingness to work and understand the importance of deadlines; ability to ask questions (and not to be afraid to say you don't understand something)

Another panel member discussed the importance of independent thinking on the intern's part:

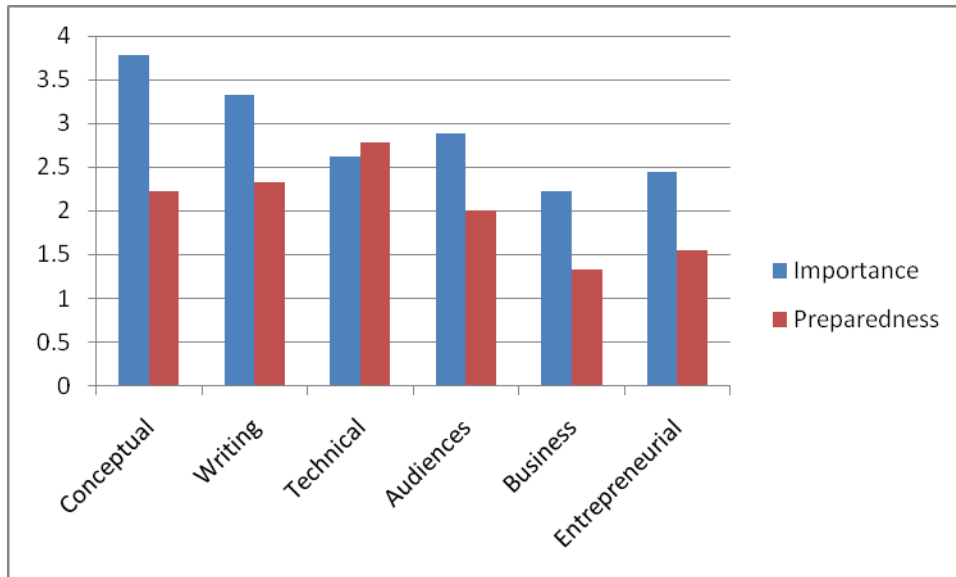
someone who can think for themselves - when asked to do a task they not only complete it under their own time managed approach, but also do other tasks round the original one that bolster and add to the point of the first.

Others emphasized the importance of writing skills:

Writing skills are critical - both for TV and online. A willingness to push themselves forward and contribute ideas in what can sometimes be a daunting environment. Self confidence and a willingness to ask questions.

Ability to write well (including spelling and grammar); punctuality; good telephone manner; social skills to get on with people in a very busy office; confidence.

Table T.4. Importance versus preparedness of core attributes



1.3. Developing Future Communication Entrepreneurs

Other panel members suggested taking the more entrepreneurial approach to higher education and stressed how it is increasingly failing to deliver what the industry needs:

1. Set up companies within universities with clear cut terms and conditions that employ students to pitch for and deliver commercial briefs. This is a fraught area in which claims of undercutting the commercial sector and exploiting students are often made. If the terms and conditions are sensibly structured and students are paid in the context of training, it could prove invaluable to their professional development.
2. Some kind of seminar program to deliver the overlooked 'soft skills' that are so vital in the business. Inabilities to spell, punctuate, write a letter, talk to a client, arrive on time, explain ideas clearly, etc. are real handicaps. A university degree should act as a guarantee to an employer that an applicant is proficient in these skills. Increasingly, it does not.

1.4. Toward Future Industry Partnerships

The final part of our survey assessed the way in which higher education and the creative industries can develop new partnerships and further develop their current ones. Almost everyone in the panel are involved in partnering with higher education with 4 being somewhat involved and 4 being quite or heavily involved. This involvement included:

- Being visiting speakers to classes and student organizations
- Hosting tours of their workplace
- Serving on a professional advisory board
- Mentoring students and giving feedback on “real life” assignments

The majority of the panel agreed that student placements benefit mainly the student but come with some benefits for the employer as well. As one panel member said:

The student benefits from experiencing what it's like to work in a genuine professional environment where decisions and commitments about creative aspiration and execution, deadlines, budgets and time allocation have consequences. It hopefully helps students understand a bit more about responsibility to a team and a project rather than just themselves. Employers gain insights from direct contact with a key demographic with which they may not usually be in contact. This is particularly relevant in the media where new trends and changing habits often begin among younger people.

Another panel member stressed the importance of students having the necessary skills to fully benefit from their placements:

I'm afraid very few of our students have the necessary skills to properly benefit from their placement. Some cannot even spell or write properly, which renders any editorial involvement in our operation futile. Few read magazines or newspapers, or even watch television, and so cannot participate in meaningful development. Some are useful on location, but this is unlikely to be of benefit to them as much as seeing a creative digital company from the inside.

When asked in which way universities and industry partners might work together to narrow the gap between what the industry wants and what higher education currently delivers, different suggestions were echoed across the panel. One panel member suggested making courses closer to what students can expect in a real life work environment:

Collaborating to work on the breadth vs depth of courses. Organize students in groups that reflect a more realistic structure (planners, project managers, designers, programmers, writers) A willingness to push themselves forward and contribute ideas work to strict, realistic deadlines (weeks not months)

Another panel member stressed the importance of longer student placements and open days where students and people from the industry can meet and engage with each other:

Universities could allow students to present themselves to potential employers in a speed date or open day scenario. Universities could also take pressure off SMEs to pay for work experience or internships. Certainly on the continent internships last 6 months and one of the roles at production companies is for the intern to raise their next six months wages - making a full year. During this time they can make themselves indispensable. It has to be down to the students to prove their worth and earn their spurs.

Another member of the panel suggested a form of ambassadorial service that could assist communication between universities and employers. Several board members felt that universities should take a stronger lead and ensure that students know what to expect in real life working environments. Others however stressed the importance of direct contact between universities and employers, where the industry is much more integrated into university teaching initiatives.

1.5. Teesside overview

Panelists' responses varied depending on the areas of industry they represented, but there was general agreement that communication skills, creativity, ambition and the ability to think for themselves were important qualities in student interns and graduates. Panelists recognized that placements and internships were beneficial to both students and companies, but felt that longer placements were more worthwhile. There was concern that many students did not arrive with adequate skills, for example in writing, to benefit from placements. Employers were interested in becoming more involved with higher education, for example through giving briefings for and feedback on projects, and taking part in speed-dating events.

2. Gävle

The University of Gävle was represented by two educational programs with a focus on computer graphics and graphic storytelling. The industry panel therefore had an emphasis on the CG/VFX and graphic industry. Members are active in CG-studios, as freelance agent, film editor and also as artists working in the field. Due to the limited number of respondents the Swedish survey was not carried out as a formal, statistical survey but relied mainly on the comments that the participants was asked to give on the questions. These were sent to the respondents as an email and the answers were given directly in a returning email or as a separate document. Five of the participants responded.

2.1. Assessing Key Skills

All respondents said that they agree on the five key attributes that was proposed. The comments that followed were mainly about the ability to work and function in project organizations including keeping deadlines and meeting quality requirements. This also includes keeping budgets and being able to explain the work to people not familiar with computer graphics.

Respondents were asked which skills, qualities etc are key for them when appointing employees; which are 'nice to have' but less crucial. Comments covered several different aspects:

Be able to work independent and take responsibility, problem solving skills, quality of work, social skills (communication skills - both internally and externally) and continuous learning / improvement. Working in a team and not being afraid of asking for help when needed.

Mathematics. (Self taught or degree.)

Good track record from former employers, technical as well as artistic skills, social and good to work in group. The quality of own presentation on the web. Must be regularly updated with new material. (runs a CG/VFX-agency)

The feeling – "give the old rusty teapot a soul." The ability to cooperate with other 3D-CAD system users and their tools. Incorporating real backgrounds from site. Hard to find this skill. (runs a visualization enterprise and works a lot with the visualization of building projects) Customer awareness.

Awareness of audience – meeting an audience outside my own age group to understand who my production is for.

Business environment: general business economics, budget thinking and cost awareness is of course a basic skill that everybody must have, but to teach business opportunities...well I don't know ... having doubts that business opportunities can be taught within education time frame.

One additional question was put forward to the Swedish panel: "Is there any, and if so, what do you think is, the added value of a person being educated at a university in your business? In other words: If two persons have the same quality of showreel and one has a grade from a university and the other not, what would make you choose the graduated person?" The background to the question is the fact that young people often choose a different path to the road of knowledge, many utilise the rich material available on internet and get their training in a non-formal way. Comments may be summarized as follows:

More experience of working under pressure, meeting deadlines. Important to know the time being laid on a nice showreel.

More experience of group work. Working towards a common goal.

A strong mathematic skill and computer experience.

The reputation of the school.

University education would always be preferred. It is always wider and the students have been taught that the process changes with time and they have to adapt and learn new tools, systems and working methods.

Further comments added mathematics as a key skill. Also a longer period of internship would be desirable. 6 - 8 weeks is too short. The respondent also mentioned high-paced changes in the industry and how quickly the central tools in the business change.

2.2. Developing Future Communication Entrepreneurs

The question of entrepreneurship was addressed in the following way:

I think entrepreneurship is crucial for our industry. Being in the forefront in technology and finding ways to apply that technology in existing business but also look into other industries where 3D graphics are not used much today but could be very useful in the future ...

The view of how an entrepreneurial approach may be developed at universities:

Find and introduce the students to industries where 3D graphics and digital solutions aren't so developed yet. Make the students understand that the possibilities are endless and create cases in their studies where these solutions can help companies save or make money. That will be a key to bringing this area of expertise into new industries. Cost cutting and efficiency improvements and increase in sales attracts all industries.

2.3. Working in partnership

The respondents emphasized the importance of the student having knowledge about current software tools being used in the industry when looking for internship. It is also of great importance that the student is honest about his or her own skills. A good show reel is very important and also a willingness to learn. Industry wants to see a commitment to the job and an understanding of the responsibility that comes with a job.

One respondent was enthusiastic about benefits to the organization from working with universities:

I have employed two out of four prior interns and a third is doing work for us on a freelance basis. We would not be in business without having interns who could contribute with introducing new software, showing which possibilities they have. That creates new markets and business ideas.

From this it is suggested that that the following regarding how universities and industry partners can work together in the future:

For one thing continue with internship as a part of the education. Invite companies to hold lectures at the Universities and promote your University and your students as much as possible. Organize events/fairs where you invite companies to interact with your students.

Respondents suggested the following ways in which industry may support universities in developing a business-focused approach:

Being invited to hold lectures where we can give our view of the business today and the future, accepting interns from Universities and of course participating in these kinds of surveys.

2.4. Gävle overview

The members of the panel were interested and willing to participate in the panel when being asked. Unfortunately that willingness did not really align with a willingness to prioritize the work of answering the questions as only a part of the panel answered the questions in the end. Not much to be said about this. The industry is most often quite busy with their own deadlines and that must come before anything else. This is reflected also in the emphasis on keeping deadlines as one of the major skills that they want students to have. This repeatedly pops up in different ways in the comments. Another key comment is that universities and industry best support each other by letting industry give lectures and workshops and accepting internships. This might not be very new but still it may be worth emphasizing. Good old communication methods can still do the job. But it requires two things: (1) The universities must be open to the knowledge and skills that industry can provide also in a vocationally oriented area as this is and (2) the industry must willingly accept internships and also set aside the time required to go to universities, not only to give single lectures, but also to come back continuously for feedback on student work, etc.

3. South Carolina

The Journalism and Mass Communications School's Industry Panel consists of a core group of 17 active journalism, marketing, advertising and public relations professionals. These professionals meet quarterly

with administration and faculty to discuss issues within industry and the academy. As a sample, this group should be viewed as a purposely selected group of journalism and mass communication professionals rather than a random sample of industry professionals at large.

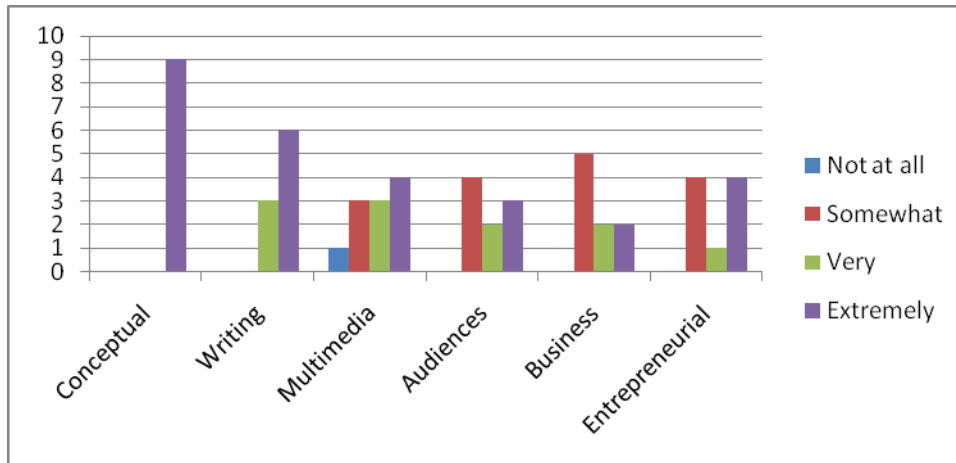
Of the 9 respondents in our online survey, 4 worked in journalism, 2 worked in advertising and 3 worked in other communications areas not defined in the survey. Of those working in journalism, 2 were in newspapers and 2 were TV media professionals. Over half of the respondents described their organization’s media mix as evenly distributed between traditional and digital media. All but one had completed a college degree in their field, with the majority having bachelor’s degrees and only two holding master’s degrees. Relevant work experience ranged from 8 to 45 years, with a median of 26 years. Most held executive positions such as CEO, executive director or president, but two described themselves as news anchor or multimedia editor. In terms of entrepreneurship, over half described themselves as only “somewhat entrepreneurial” or “not at all.” Only one of the 9 respondents chose “highly entrepreneurial” as a response.

3.1. Assessing Key Training Needs

In the section of the survey where the question was, “Of the 6 CORE ABILITIES, which do you see as the most important?” 6 of 9 members of the panel placed heavy emphasis on Conceptual Abilities. Writing Skills was a distant second with 2 mentions. Understanding Audiences received 1 mention. Multimedia Skills, Business Environment, and Entrepreneurial Attitude received no mention.

In Table 1, however, we see that while Conceptual Abilities was clearly the favorite with Writing Abilities a close second, the Multimedia and Entrepreneur skill preference exceeded Audience and Business skills. What is surprising is the difference between the weight given the skills in Table 1 compared to how the panelists chose when selecting the most important CORE ABILITIES. Understanding Audiences and Business Environment were not seen as *essential*. Somewhat surprising was that Entrepreneur Skills and Multimedia Skills ratings were skewed as more important when rated individually, but when rated in the group they were dismissed entirely.

Table SC.1. Panel members’ ratings of the importance of the six core attributes



The unanimous emphasis on Conceptual Abilities, described frequently as critical thinking, was explicated by one panelist as:

Learning the basics is the easy part: which tool you deploy, why, and who reinforces the importance of conceptual skill development. Developing abstract thought, an open mind, commitment/passion for telling the story, stepping outside yourself and your experience to “hold up a mirror” for those who may never see/hear/feel/touch another’s perspective/life experience -- those are just some aspects that separate storytellers from technicians.

The emphasis on “developing abstract thought” rather than the mastery of new communication tools reinforces the thinking that, especially in journalism, without the ability to do critical analysis there can be no mastery of the craft of storytelling. Technological advance combined with social and digital media’s disruption of the profession’s *mediums* has not disrupted the art of storytelling. This was further described by another panelist who also valued Entrepreneurism as well as passion for the profession:

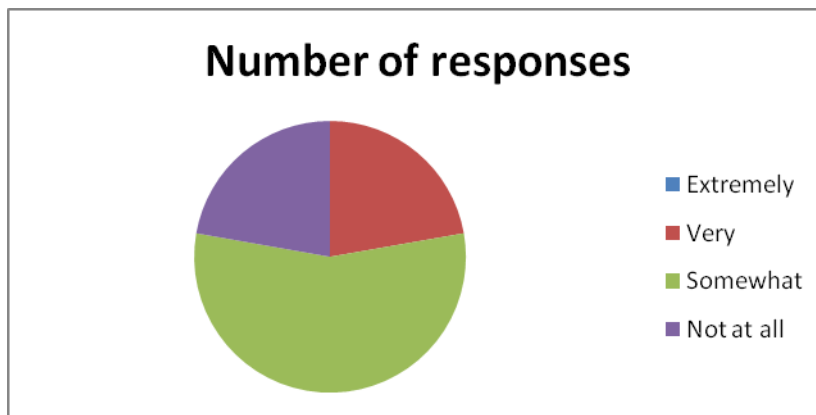
It was a close call between Conceptual Abilities and Entrepreneurial Attitude. I value employees that are thinkers and doers. People who have the ability to concept an idea, think on their feet and figure out a way to make it happen. Passion for the business is the single biggest thing I am looking for.

3.2. Assessing Training Outcomes

Our industry panel assessed training outcomes of higher education through their experiences with student interns. More than half (5) of our panelists had a lot of experience selecting student interns, while 3 had some experience training interns – only 1 did not have any training experience.

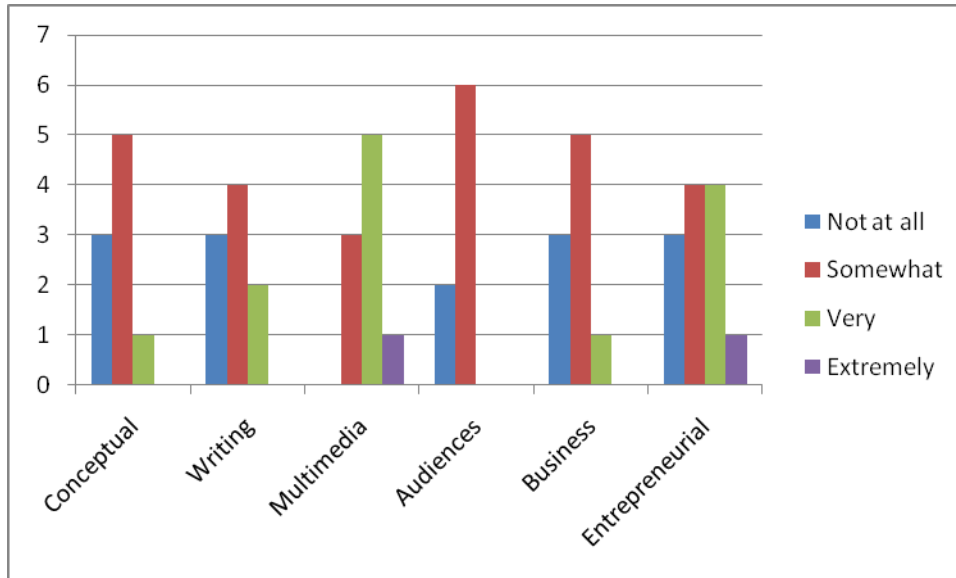
While none of the panelists thought their student interns had been Extremely Prepared, the majority found their interns Somewhat Prepared. Two panelists found their interns Very Prepared and 2 found they were Not at all Prepared. This information appears in Table 2:

Table SC.2. In general, how well prepared have you found student interns?



Contrary to their assessment of core skills, board members felt that student interns' preparation was strongest in terms of technical abilities. For the most essential abilities – conceptual thinking, writing, and understanding audiences – preparation was seen as only Somewhat Prepared. These results appear in Table 3.

Table SC.3. Board members' perceptions of student preparation in terms of the six core attributes

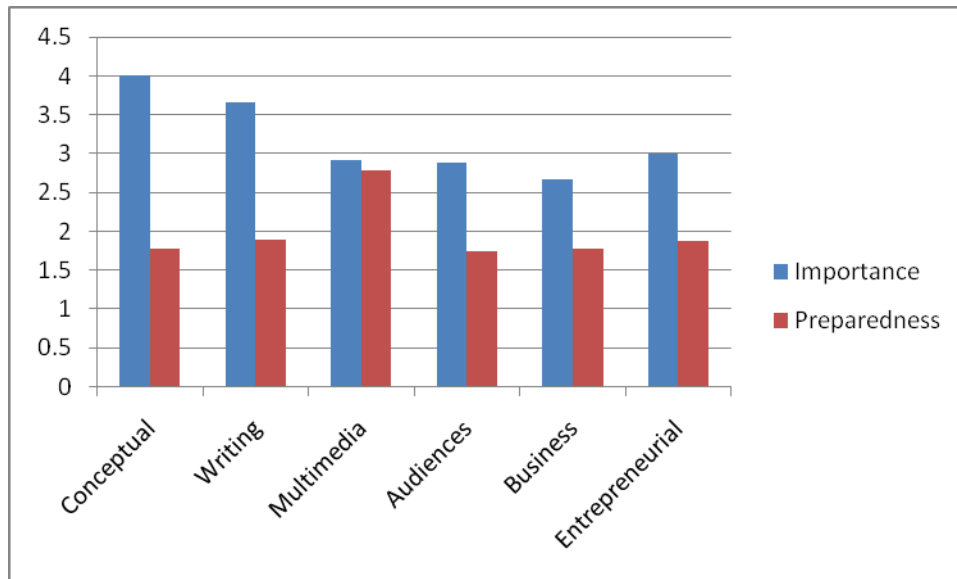


When asked to describe what skills and abilities panelists saw as important for a successful internship, writing and conceptual abilities were emphasized. Other desirable traits included a willingness to learn, keen observation skills, adaptability to change, conversational skills, and a solid work ethic:

I need interns who are not afraid to hit the ground running. They need to arrive with the skills not only to do the work expected of them but also to juggle constantly changing schedules. The biggest challenge I have faced with interns is that rarely are new graduates capable of talking to strangers and being able to get close enough to people to frame strong images. Students need to be better prepared to enter the working world when applying for internships.

You are a sponge as an intern. If you are lucky enough to be asked to participate as an intern; take it all in; good with the bad; watch, listen, learn -- sometimes watching someone do something badly (while we hope that is minimal) can be the best learning situation; watching a master do their thing - equally important. Being able to distinguish between the two - very important for an intern. And, again, importance of developing conceptual abilities cannot be over-stated.

A willingness to learn and be taught. They have to accept that they are here to learn and grow. Also, those with strong skills in writing and technical abilities are able to get up to speed more quickly but it is really all about attitude. We can work around the skill level if the student is open to learning.

Table SC.4. Importance versus preparedness of core attributes

3.3. Developing Future Communication Entrepreneurs

Panelists were almost equally divided in how much value they placed on entrepreneurial traits; nearly half found it only somewhat valuable and nearly half found it extremely valuable. This finding was mirrored in how entrepreneurial the panelists perceived themselves with again a near even split between those who chose Somewhat Entrepreneurial over Completely Entrepreneurial or Highly Entrepreneurial. None of the panelists Believed Fully that entrepreneurship could be taught. 3 of the 9 panelists Believed Strongly it was teachable and 2 panelists answered Not at all. The remaining 4 only believed Somewhat:

It's a little hard to define entrepreneurship in journalism. However, the simple fact remains that if a person, being a student or otherwise truly WANTS and DESIRES to do something they are going to do it. It's not a skill that can be taught.

I'm not sure entrepreneurial skills can be taught. It's part of some people's DNA. I work in an environment that feeds a weekly machine. I'm not looking for entrepreneurial skills, except when trying to push an idea that I feel is important. That falls into the category of developing good working relationships with staff and clients.

I think it is the person who takes ownership of the project they are given. He or she seems invested in seeing the project work. They are willing to put in the time and effort, take chances and push past the "easy and expected." I'm not sure it can be taught as much as it can be encouraged and nurtured.

Given the nearly even polarization among panelists on the value placed on entrepreneurship, only four panelists offered a response or suggestion as to how their respective industry could help students learn entrepreneurial skills. Only one the four offered a constructive suggestion of providing “hands on experience” in the workplace. One panelist simply answered, “Didn’t know.”

As a politically funded entity -- environment requires diplomacy, limited risk-taking. Not certain ours is a hotbed for this thinking however our national reputation and resulting relationship network can expose students to entrepreneurs.

I think we have failed to provide enough structure programs that provide students with the exposure and experience. We have to give them the hands on experience that will accomplish this.

3.4. Future Partnering between Industry and Higher Education

The final portion of our inquiry concerns how industry and higher education might better partner. Of the 9 respondents, there was a near even split between panelists describing themselves Somewhat or Quite Involved in partnering with higher education. Overwhelmingly, the most frequent responses to how higher education could best address industry’s needs and graduate better prepared students were:

- mentoring
- having active, working professionals teach University classes
- greater interaction between industry and the University

Additionally, panelists felt interaction between academics and working professionals was necessary to keep higher education abreast of industry trends:

I think having working professionals teach classes at the University level would be a huge asset to the schools and their students. Professors could also benefit from this type of partnership as I have found that many people in education are not up to today on the latest technology or industry trends.

One panelist suggested one way to involve industry and working professionals was to place some emphasis on work experience as opposed to degree standing by instructors:

I think including more professionals in the classroom and getting the students into the agency environment is very important. Allow professionals to teach a class without having to have a Master’s degree.

3.5. South Carolina overview

The panel again emphasized conceptual skills along with adaptability, confidence and a willingness to learn as the most valuable qualities in an intern or young professional. They found students were reasonably well prepared, but more so in terms of technical skills. There was a degree of polarization on the subject of entrepreneurialism in graduates but all panelists agreed that passion is key. There was general agreement that industry and academics need to work to keep programs relevant.

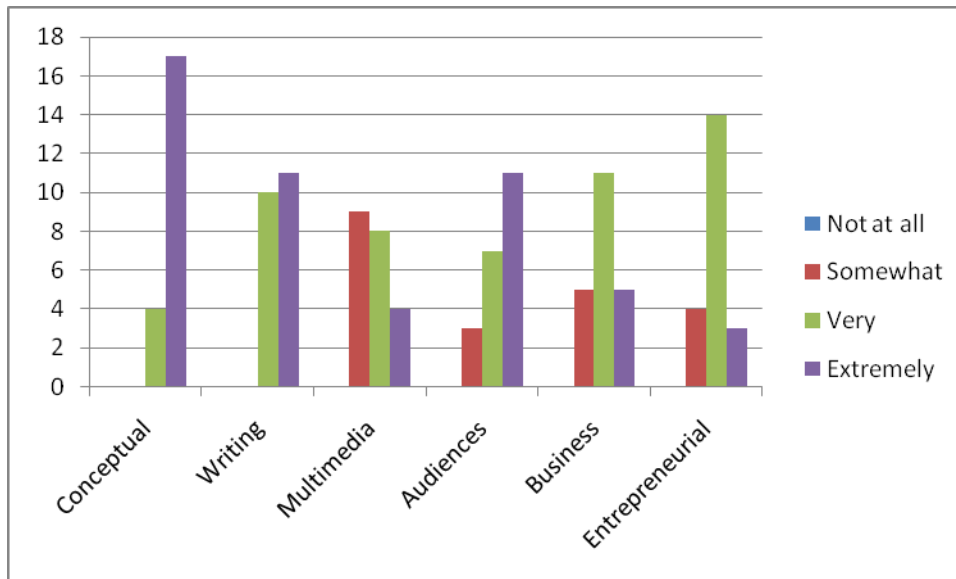
4. Iowa

The Iowa panel represented the School's Professional Advisory Board including both an active core and a larger group of interested professionals totaling approximately 40 people. The active core convenes twice a year at the School to discuss issues and offer feedback. Studying this group should be viewed as input from a purposefully selected group of experts rather than a random sample of media professionals at large.

The online survey of our industry panel yielded 21 responses. Of the twenty-one, 8 worked in journalism, 13 worked in areas of strategic communication (public relations, advertising, marketing). Of those working in journalism, 7 were in newspapers and one in television. About half described their organization's media mix as mostly traditional media. All but four had completed a college degree in their field, with three holding a master's degree. Relevant work experience ranged from 4 to 48 years, with a median of 30 years. Most held high-level positions such as CEO, publisher and president, but three described themselves as new anchor or reporter. Regarding entrepreneurship, 5 saw themselves as "completely entrepreneurial," with 11 stating they were "highly entrepreneurial."

4.1. Assessing Key Training Needs

One essential answer to glean from our industry panel concerns the relative emphasis on six core skills for training. Overall, when asked which core ability is most important, 13 of our 21 respondents identified Conceptual Abilities. A distant second was Understanding Audiences, with 4 mentions, followed by Writing Skills, with 2 mentions. Multimedia Skills and Awareness of the Business Environment each garnered 1 mention.

Table I.1. Panel members' ratings of the importance of the six core attributes

What stands out in Table 1 is that Conceptual Abilities, Writing, and Understanding Audiences provide a foundation for other abilities. Somewhat surprising was that Multimedia Skills were rated of lowest importance. This does not, however, mean that Multimedia Skills were viewed as *unimportant*. Rather, they were likely not seen *as essential* for professional success as thinking and writing, and likely, more teachable on the job than the other areas.

When asked about considerations that helped shape their choice of the most important core ability, a few key ideas emerged. There was a strong emphasis on the centrality of conceptual abilities, often expressed as critical thinking. As one advisory board member summed up nicely:

Conceptual abilities seem key to any career direction, whereas many of the others are industry-specific and/or can be taught. Entrepreneurial spirit is important, but needs to be tempered by critical-thinking skills.

One reason that conceptual abilities were emphasized was that the social environment and communication climate are not static. Likewise, new communication tools can be learned, but the thinking behind those tools needs to be firmly in place. This emphasized how communicators, whether in journalism or strategic directions, need to see how their work fits into the current context, as another board member explained:

Critical thinkers are great in any profession, but in journalism and communications they are everything...those who can see this deeply elevate the best in journalism and can also further a company's mission with clear guidance and effective communications.

These notions also point out the importance of understanding an audience's perspective before crafting communication, possibly one of the most crucial dimensions of conceptual thinking. One board member asserted that

Too much communication is now based on what the creator thinks and not the impact on any reach to the recipient.

Understanding an audience was described as an essential prerequisite:

Without understanding the needs of the audience, none of the other skills are as important. For example, that brilliant copy will be ineffective if it doesn't address the audience's needs or get placed in the appropriate place for the audience to interact with.

Another board member took this idea one step farther:

Critical thinking and understanding your audience go hand in hand. Deciding on the most appropriate and therefore, important, messages for a specific audience helps create collaboration towards attaining a goal.

Finally, when asked about *other core abilities* that should be added to the list of six, a few board members pointed out the importance of being able to work with others. This aspect concerned both collaborative abilities and a basic knack for getting along. A board member explained:

Any environment must have a "social" component to it. How important is a person's personality in a working environment? While maybe not a core ability, it should be a stronger consideration.

In all, this discussion identifies a conundrum: perhaps the easiest core ability to teach – multimedia skills – was seen as the least essential to be taught by higher education. In contrast, the core abilities most difficult to teach – conceptual thinking and understanding audiences – rose to the top of the list and were further elaborated through survey comments.

Writing skills appeared as important, too, but were taken for granted. While teachable, writing serves as a tactical tool much like multimedia skills to help support strategic thinking but requires a more extended period of learning.

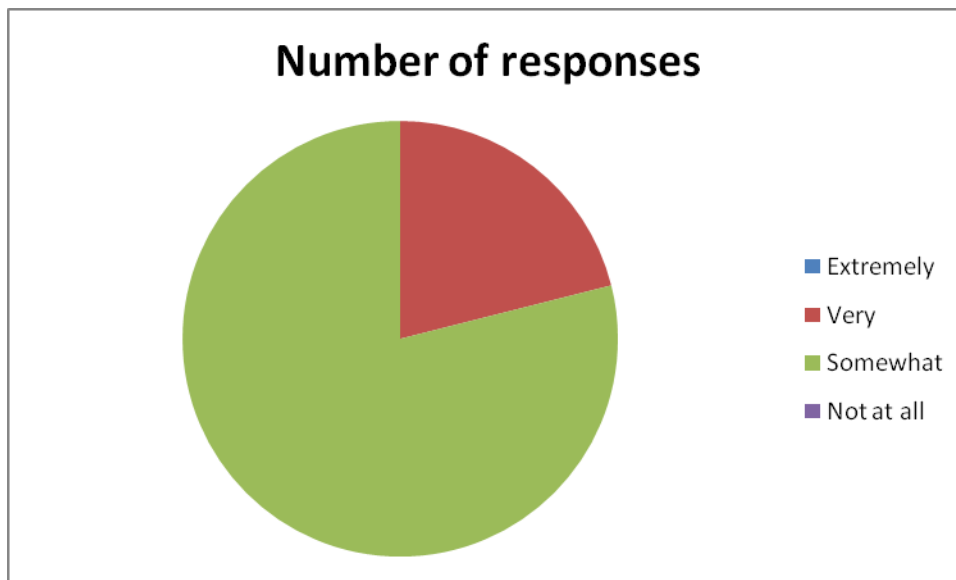
Ultimately, what this information suggests is that if thinking and writing are already in place, multimedia tools can be taught; conversely, multimedia skills on their own cannot succeed without the other five core abilities that place these essential multimedia tools into their communication context.

4.2. Assessing Training Outcomes

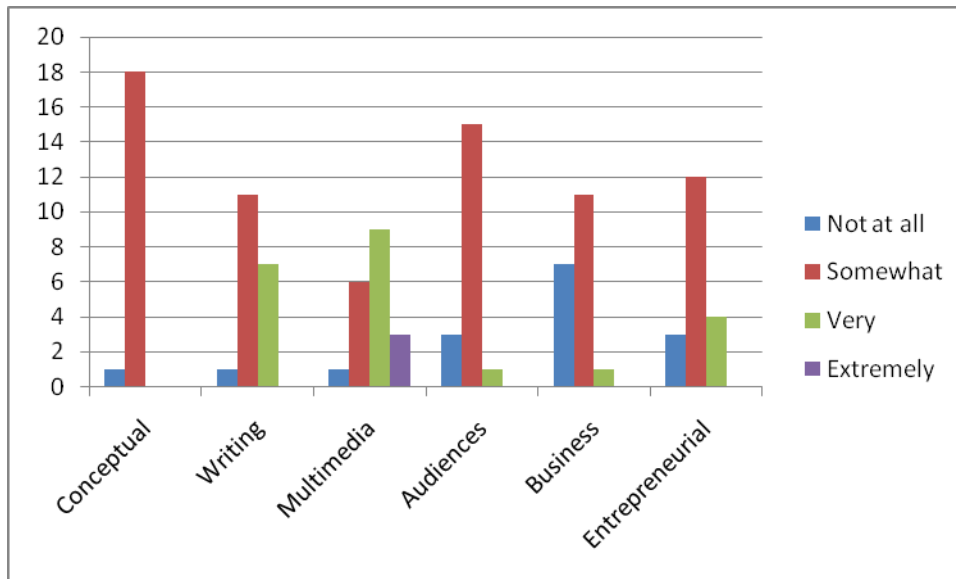
One way that advisory board members could assess training outcomes of higher education was through their experiences with student interns. All but three board members had some (9) or quite a lot (9) of experience selecting student interns. Most board members (15) also had some experience of training interns – only 2 did not have any training experience.

Overall, board members thought student interns were not adequately prepared for their internship experience. Although no board member had found interns “not at all prepared” or “extremely prepared,” the majority felt that students were only “somewhat prepared.” More positively, 4 board members thought that interns had been “very prepared.” This information appears in Table 2:

Table 1.2. In general, how well prepared have you found student interns?



Parallel to their assessment of core skills, board members felt that student interns’ preparation was strongest in terms of writing and multimedia abilities. For the most essential abilities – conceptual thinking and understanding audiences – preparation was seen as lower. Although not addressed as much in the discussion about core abilities, awareness of the business environment was viewed as students’ lowest area of preparedness. These results appear in Table 3.

Table I.3. Board members' perceptions of student preparation in terms of the six core attributes

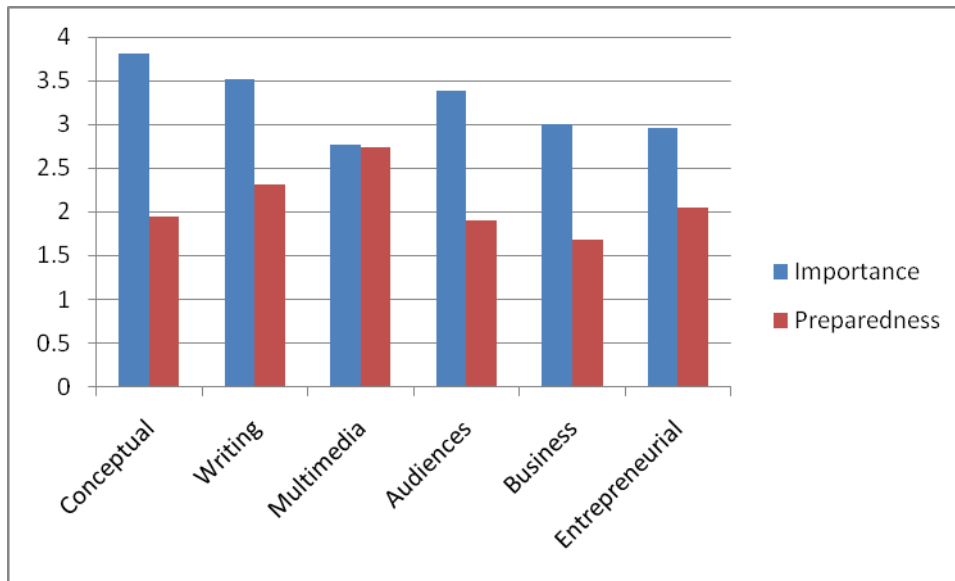
When asked what factors contribute to a successful internship experience, board members mentioned core abilities but heavily emphasized that attitude was key. They believed that if a student had good thinking and writing skills, their drive, motivation and willingness to learn would make them stand out on the job. As one respondent explained:

Writing/storytelling is important because it is a skill that we don't have time to teach an intern. To a certain extent, I see our role as intern supervisors to provide context for learning the awareness of the business environment and understanding audiences.

Another board member further discussed the profile of a successful student intern:

They need to be prepared with basic technical abilities required by the job; they need to understand how to get along with others (teamwork) and have some sense of corporate culture; and more important, they need to be resourceful and demonstrate an eagerness to contribute.

In summary, respondents tended to be involved with higher education students through education. These respondents felt that the students they experienced needed to be better prepared for their work worlds. Preparation seemed strongest in skills areas and less so in conceptual areas.

Table I.4. Importance versus preparedness of core attributes

4.3. Developing Future Communication Entrepreneurs

Most board members saw themselves as entrepreneurial in their work. Eleven of the 21 described themselves as highly entrepreneurial, with 5 claiming to be completely entrepreneurial. When asked how they would define entrepreneurship within the context of their industry, respondents frequently identified three aspects:

- the ability to create innovative ideas,
- a willingness to balance risk with potential rewards, and
- the drive and confidence to bring ideas to successful fruition.

Although they believed an entrepreneurial outlook is important, respondents also thought that this ability grew and developed out of ongoing experiences. One respondent offered a straightforward, encompassing definition:

I would define it quite broadly, starting with the ability to recognize the need for a better way of doing something, approaching that problem from a fresh perspective, devising plans for implementing and promoting the new solution, and then garnering support – which means getting others on board and finding the necessary resources to get the new idea off the ground.

A few respondents felt that students were unprepared to become entrepreneurs, partly because of fear of failure and partly because of lacking experience in their industry's context. One respondent explained:

...it is more about teaching a person that failure is OK and to not be afraid to champion a solid idea, no matter your role...I find many young people are afraid of taking a chance on supporting new ideas, though this is one of the most connected generations in history.

Whether in journalism or strategic communication, this point came out. As applied to a news context, one respondent lamented:

Everyday news stories require a certain element of entrepreneurship. Reporters or producers who look at a story as 2 sources, 3 facts, shot, written and edited in 4 hours...we're in trouble as a society. Those who touch the news product in its most raw form must be nimble and take risks when it comes to capturing a human experience and sharing it with the masses.

All 21 respondents felt that entrepreneurship can be taught although most did not hold this view strongly. Thirteen said they somewhat believed it could be taught, while eight said they believed strongly or fully that it could be taught. The best way for students to learn, many said, was to see entrepreneurial thinking in daily action during an internship:

By inviting them "inside" via internships, co-ops, on-site tours/training; via networking and mentoring; by getting more professionals into the classroom; and via other forms of experiential education, e.g., having students devise and manage new projects from start to finish.

Part of this experience, several felt, was learning to see risk as a regular part of work, to become comfortable with seeing ideas and bringing them to fruition, learning about the hurdles and pitfalls that regularly appear along the way. One respondent added that well-informed risk-taking is key:

We can talk more openly about our failures and what we learned from them. We can talk about what we call intrapreneurship – risk-taking with a strong knowledge of the audiences we serve (internally and externally) along with knowing the potential impact on the agency's financial and mission performance. It's still risk-taking, but mitigated by a solid understanding of potential outcomes.

Another respondent offered practical advice, and then turned an old adage on its head:

Remind them they have the job and if they are doing that job, there will be setbacks...if it ain't broke, then break it.

In all, advisory board members held out hope that students could grow into entrepreneurs, whether launching a new enterprise or working within an organization. Success in this direction, they felt, came from a combination of preparation in basic skills with ongoing experiences that both normalize risk and make outcomes more predictable.

4.4. *Toward Future Industry Partnerships*

The final aspect of understanding how higher education and industry might develop partnerships addresses ways that existing partnering activities might be grown and developed. Twelve of the 21 thought they were quite or heavily involved in partnering, including:

- serving as visiting speakers to classes and student organizations,
- hosting tours
- putting on training sessions at their workplace
- teaching a college class as an adjunct instructor.

Advisory board members also described a scenario where the ideal intern or employee would bring a solid foundation in writing and multimedia skills, topped off by strong conceptual thinking, a grounding in business basics and a sense of audiences for their work. In contrast, though, most board members thought that students were more prepared for writing/multimedia skills than for the context and concepts of their work.

Partnering between education and industry becomes an essential solution for narrowing the gap between what industry expects and what education delivers. Most board members felt that education needs to take the lead in nurturing the relationship, with industry playing some key roles in possible solutions. A dedicated outreach staff member was suggested by one board member. As another board member explained:

One of the best and biggest ways to partner is to understand the audience – universities need to continually reach out to the industries they serve to understand their needs and industry needs to be involved in shaping that education. After all, the students are the products and if no one is going to buy, will the educational investment have been worth it?

Another board member echoed the importance of higher education taking the lead:

It's really dependent upon the university to proactively develop relationships with industry partners. They need to demonstrate they can deliver great candidates and they need robust and active internship centers that are organized and well run.

One key direction, they suggested, was in helping industry better understand the roles that higher education can play in developing an interactive relationship:

Industry needs to be better informed about HOW and WHY to get involved with universities besides hiring interns and grads, sponsoring research, or providing charitable gifts. Making such opportunities known to the business community is the responsibility of universities, many of which do an inadequate job of engaging real-world partners in mutually beneficial relationships.

One solution recommended by industry would be to bring professionals to the classroom, taking on a role beyond guest speaking to teach a course or perhaps a *module* of a course. Conversely, educators need to leave the classroom to enhance their understanding of industry's working context. One board member's comment encompassed both dimensions:

I think it is wise for faculty to spend time at media sites – perhaps working in the summer themselves – to see the developments and challenges in today's media environment. Conversely campuses need to hold professional training seminars that can be taken advantage of by professionals around the area/state.

Another board member elaborated:

Provide summer work opportunities for members of the faculty. It will do much to break the chasm that seems to exist between the two. It will help members of the faculty to identify what is really needed by practitioners in the workplace and determine how to deliver those competencies to students in the courses that they teach.

Finally, a solution suggested by a couple of board members would be to hold occasional conferences between industry and education. One board member described an industry outreach effort tied to national conferences:

When I was in a corporate role, I spent time attending AEJMC sessions and our company presented several programs there. Additionally, we hosted an extensive seminar when some new programs were introduced and set up working relationships between various newspapers and nearby campuses.

The scope of these conference efforts could be more localized and at a smaller scale as well:

Conferences designed to provide a substantive dialogue around what communication competencies businesses require and what type of content and process is most effective at the university level to produce graduates with those capabilities.

Another board member added:

Joint conference opportunities between corporate communication executives, agency leaders, and experienced academics would afford the time and proximity for idea sharing.

4.5. Iowa overview

In all, advisory board members felt that increased outreach and interactive experiences would serve as an important means of bridging the gap between industry's needs and the skills and abilities that

university students can bring to internships and jobs. Several board members felt that the university should take the lead in building and nurturing connections, but that industry had key roles to play that could enhance students' educational experiences.

Appendix 5: Bridging the Gap – conference program

Conference Programme

Wednesday 12th September

3.00 Registration and coffee

3.30 Employers' Panel

Chair: Christa van Raalte – Teesside University

- Steve Bowden - Vita Nova Films Ltd
- Kim Blake - Blitz Games Studios
- John Paul Chapple - Endemol
- Christian Fonnesbech - Lassen Interactive
- Angelina Fusco - BBC Ireland
- Garret Keogh - Telegraph Hill

4.30 Partnership Case Studies:

Taking the Academy to Industry

- Paul Jensen - University of Iowa
& Mike Wagner - KCRG-TV9 News
- Darren Bristow - University of Bradford/Quba
& Aoife McCardle – GfK
- Kerry Gough - Birmingham City University
& News Team International

6.00 Working Academy Website Launch

- Nathan Bentley - TwoTwentySeven
& Nicky Ball - Creative England

6.15 Break

7.15 Skillset Sponsored Dinner at Langtry Manor Hotel, with key note speaker:

Anthony Lilley

Thursday 13th September

9.15 Key note speaker:

David Docherty - CIHE

10.15 Coffee

10.30 Entrepreneurs' Panel

Chair: Mick Stockton – Teesside University

- Rajeeb Dey - Enternships.Com
- Rachel Givens – Lovebug Films
- Neil Kidney – Seed Animation
- Mike Lunt – Mirror Image Films
- Andy Price – Teesside University
- John Klepper – Imagination Studios

12:00 Lunch

1:00 Partnership Case Studies:

Bringing Industry to the Academy

- John Mateer - University of York
& Alan Latham - Green Screen Productions
- Jeff Baggott – A.U.C.B
& Sue Lyster - Framestore

2.00 Plenary

Presentation of Interim Findings from the EMVET research project and the conference

- Christa van Raalte – Teesside University
- Charles Munro – University of Iowa

Appendix 6: *Bridging the Gap* – Abstracts and speaker profiles

Key note Speakers

Anthony Lilley: "The Death of Digital?"

Anthony Lilley has been working in digital media more or less since it really was "new", but just recently he's started to wonder whether it's time to stop making out that everything is different because of digital. Whilst he continues to be amazed and excited by new technologies and the things people do with them, his roles as a part-time regulator, even more part-time academic and full-time creative business man are increasingly making him wonder which questions are bigger than technology. Of course, some digital developments really are revolutionary. But maybe questions about learning, parenting, regulation and more need a more holistic approach. What if we were approaching the death of digital?

Anthony Lilley is an award-winning interactive media creator and strategic thinker. He is a member of the Content Board of OfCOM, a Gambling Commissioner, a Visiting Professor at the Universities of Bournemouth and, formerly, Oxford and a former New Media columnist on The Guardian. His day jobs include heading Magic Lantern and a board seat at China specialists, Zespa Media

David Docherty: The Burning Fuse: Universities and Businesses Building the Creative, Digital and IT economy.

Creative, Digital and Information Technology is the most explosive area for growth in the economy. It is both an industry and a platform for other sectors as diverse as health, aerospace and tourism. How do universities and businesses work together to develop a deeper understanding of how these industries are fusing, create the research and development base necessary to drive it, engage the graduate talent to grow it, and create the theory to understand it. The new National Centre for Universities will be working on sectoral challenges such as this, and this is an opportunity to feed into the development process of the Centre.

David Docherty is Chief Executive of the Council for Industry and Higher Education, and Chairman of the Digital Television Group, which is the industry body for digital television in the UK. In the media world, he was the BBC first Director of New Media and Deputy Managing Director of TV. In the commercial world, he headed up cable company Telewest's drive into broadband content and services as MD Broadband. He has been Chief Executive of two media companies providing television and interactive media. In the public sector, he was Chair of Governors of the University of Bedfordshire and was a member of various government advisory

panels on new media and future technology. He is also on the management board of The Society of Authors. He has written extensively on media and technology convergence as a regular columnist for the Guardian, the Financial Times and other national newspapers. He is the author of six books, including three on the history and sociology of the media, three internationally published novels, and many academic articles across on subjects as diverse as theology, media and sociology.

Employers panel

Steve Bowden has over 15 years experience as a producer in the film and television industry delivering projects for the BBC, ITV, Channel 4, UK and international distributors. From 1998 to 2006 he was Senior Producer and Joint Managing Director of Ipso Facto Films. During this time the company became one of the more prolific European feature film co-producers. In 2006, Steve set up Vita Nova Films producing for the UK Film Council and continuing his European co-production work. In 2008 he produced the multi award winning feature film *Prima Primavera*. He is presently in preproduction with the UK feature, *Law & Disorder*, which is due for release by Revolver Films in Summer 2013.

Kim Blake is Senior Events and Education Co-ordinator at Blitz Games. She has worked in the UK games industry since 1993, for much of that time as a project manager at various independent development studios. Since joining Blitz Games Studios in 2006, Kim has played a major role in Blitz's various educational activities, particularly the organisation of the Blitz Games Open Days, which have been a huge success with both students and lecturers, and sits on a number of university Industry Advisory Boards. She is Deputy Chair of Creative Skillset's Computer Games Skills Council and became a Fellow of the RSA in 2010.

John Paul Chapple is a TV and film producer and screenwriter. His credits include the feature films *Bathory*, *Guy X* and *Hear My Song* and, for TV, *Once Upon a Time* and *Tributes to Elizabeth Taylor, Jerry Leiber and Mike Stoller* and *Burt Bacharach and Hal David*. He has worked with a number of national and international companies including the BBC, Channel 4, 20th Century Fox, Miramax and Portman. He is currently a producer at Endemol UK, one of the country's biggest production companies, where he is working on arts documentaries and a series of low budget horror movies for production in the US.

Christian Fønnesbech has produced and directed more than 35 online and transmedia projects for learning, entertainment and communication. He has developed a narrative form that combines social networking, games and film into a single story experience. His projects regularly combine employees, freelancers and subcontractors from the film, gaming and internet industries. He is currently directing *Cloud Chamber*, an online mystery starring Jesper Christensen (James Bond) and Gethin Anthony (*Game of Thrones*).

Angelina Fusco has thirty years' experience covering the Northern Ireland Troubles. Almost half of that period has been spent as the Editor of BBC Television News leading a large team covering some of the most politically complex, editorially challenging and sensitive stories in any part of Western Europe. For the last 14 years she has been directly responsible for the content of all BBC television news programmes in NI. Many of these have concerned stories which have made world headlines. They range from bombings and murders such as the Omagh bombing, IRA and Loyalist ceasefires, Devolution at Stormont through to the 100th anniversary of Titanic and the Olympic Torch. Angelina returned recently to the position following a twelve month attachment as a senior trainer at the BBC's prestigious College of Journalism, working with senior staff from the BBC and other news organisations from around the world

Garret Keogh has a track record of delivering major digital projects for brands and broadcasters and managing large teams and budgets. He was Editorial Director at Compuserve and [AOL](#) in the UK and then a Director at digital music startup iCrunch. He then became Head of Digital Content at [MTV](#), launching the company's award-winning mobile TV products in the UK, their Overdrive broadband player and delivering live digital content from the European Music Awards for three years. He recently worked as Cross-Platform Director at [Zodiak Media Group](#) where he managed digital projects across the global group including [Being Human](#), [True Talent](#) and [Shipwrecked](#). He also sat on the company's international development team creating global TV and online formats. Garret is a founder member of the online media company, Telegraph Hill.

Christa van Raalte (Chair) is Principal Lecturer in Media and Section Leader for Media and Journalism at Teesside University. Before taking up full time employment in Higher Education she worked in a variety of roles within theatre, community arts and education. She has a BA in English Language and Literature from Oxford University, and an MA in Cultural and Textual Studies from Sunderland University. Her PhD is in Film Studies, entitled *Women and Guns in the Post-War Hollywood Western*. Christa's principal research interests are film theory, and employability in the media industries.

Entrepreneurs panel

Rajeeb Dey is the Founder/CEO of Enternships.com – a portal that connects students and graduates to work placements in start-ups & SMEs for which he was named the “02 X Young Entrepreneur of the Year” in 2009 and the world's youngest Young Global Leader by the World Economic Forum in 2012. He is also the Co-Founder of StartUp Britain – a national entrepreneurship campaign launched by the Prime Minister in March 2011. Rajeeb is a Trustee of UnLtd – the Foundation for Social Entrepreneurs, Advisory Board Member of Channel 4 (Education) and the UKTI Sub-Saharan Africa Taskforce. Rajeeb graduated with First Class Honours in Economics & Management from the University of Oxford.

***Enternships.com** provide ambitious and dynamic students and graduates with an opportunity to learn about business and enterprise through work placements in entrepreneurial and innovative environments, from start-ups to global venture funds around the world. Started by Rajeeb Dey, Enternships.com formally launched in 2009 and is growing rapidly. More than 4000 companies in over 20 countries have used Enternships to find graduate talent, including companies like Groupon, PayPal and celebrities like Martha Lane Fox of LastMinute.com as well as James Caan and Peter Jones from BBC Dragons Den.*

Rachel Givens graduated from Media Professional Studies with Television from Liverpool John Moores University in 2011. Approaching her final year, she knew she wanted to work within the film industry but also within the wedding industry. She saw that wedding films were gradually getting more popular, identified a gap in the market and took the opportunity. Rachel has become much more confident in herself and in Lovebug, through the help and support of her university.

***Lovebug Films** was set up with the support of the Enterprise Fellowship Programme at LJMU. Enrolling on this programme made Rachel eligible for a business grant which she pitched for and received in June 2012.; the programme also provided participants with sales skills and advice on how to network. Rachel has carried out significant market research to build a modern wedding and event film company. She has developed a slick image through her brand identity and produces films of a high standard.*

Neil Kidney finished his MA in Computer Animation from Teesside University in 2003 and set up Seed in the same year with Morgan Powell. Over the last 9 years Neil has gained significant industry experience both on the business side of the animation industry and on the production side. Neil's role in the company currently ranges from tea maker through to business manager/CEO, and from runner through to technical director.

***Seed Animation Studio** is a London based, award winning, design led animation production company with a focus on distinctive character animation, predominantly recognised for its quirky, stylised and fresh approach to animation. Seed works with advertising agencies from around the world, creating campaigns, right down to the lone film maker requiring some animated goodness.*

Mike Lunt graduated with a First Class Honours degree in Media Professional Studies from LJMU in 2011. While studying, he started his business, Mirror Image Films, using it as a practice arena for his interests in filmmaking. He brought the skills that he learnt at university

and applied them to the business, working with real-life clients and honing his skills. Mike took any opportunity he could to learn the industry and acquired a placement with a company in Cannes as well as visited with companies in the United States. He still believe that the best way to break into this industry is through work experience.

Mirror Image Films is a media company that works with clients both over the internet and in person to develop original productions that range from product advertisement to documentaries to short films and beyond. They are based in the North West but have worked with clients all over the world.

Andy Price is the Head of Enterprise Development and Education at Teesside University as well as being a Principal Lecturer in Entrepreneurial Journalism. His work regularly involves working with employers, on both industry focused education and the development of greater industrial relevance within traditional University programs. For the last year he has lead a University wide initiative to develop greater entrepreneurial skills and attributes in the student community and has worked with many academic staff on new and innovative learning and teaching. He has also been closely in involved with the University's Digital Fellowship Scheme, which has been the launch pad of the many new digital businesses in the Teesside digital cluster, Digital City.

Entrepreneurs@tees is a University-wide project that aims to develop entrepreneurial behaviours and attitudes in both students and staff at Teesside University. Working in and alongside the taught curriculum the initiative consists of a wide range of challenges, competitions and activities across the academic year that provide hands on, multi-disciplinary opportunities for participants to tackle a wide range of business-related problems. As well as providing a robust pipeline to the University's successful graduate business start-up program, it also aims to deliver a progressive framework for the development of contemporary employability skills.

Mick Stockton (Chair)

Mick has worked in the media, entertainment and advertising industries for over 20 years. Graduating from Northumbria University with a degree in Computing, he worked for a number of agencies around the UK in radio, television and graphic design for print before launching his own design agency in the mid 90's with great success. He sold the company to study at Teesside University on the internationally acclaimed MA in Computer Aided Graphical Technology Applications. Mick subsequently worked in London before moving to the pioneering North East post-production facility Mere Mortals. He has worked with games giants such as Microsoft, EA, Sony and Nintendo, as well as veteran and new industry leaders such as Handmark, Samsung and Chillingo, to design and develop games products, apps and content across all leading platforms and devices. He has also worked on television productions for producers such as the BBC, Channel 4 and Endemol and on many feature films including *Slumdog Millionaire*, 28

Weeks Later and *Sunshine*. Mick returned to Teesside University in 2011, to join the academic team in the Media Section.

Partnership Case Studies : *Taking the Academy to Industry*

Journalism Internships: University of Iowa and KCRG-TV9 News/ The Gazette newspaper.

Students at the University of Iowa School of Journalism and Mass Communication pursue a wide range of communications careers, including broadcast, print, web, public relations, corporate communication and health communications. Internships are not a requirement for graduation, however many of the organizations that hire our graduates require a level of experience that can often only be achieved by participating in internships. Students are therefore encouraged to include internships as a component of their career development plan.

Students can elect to pursue academic credit for an internship; some internship employers will only engage unpaid interns and insist that they pursue credit. We support internships by publicizing opportunities directly to our students via listservs. We also seek to connect students with potential internship employers through speed networking events. In addition, several employers come to campus to interview and select interns. This summer we accounted for 125 students who interned.

This fall semester we are launching a mentoring program - matching rising seniors with members of our professional advisory board. The goal is to enhance the connections with industry that can truly benefit students.

Paul Jensen – University of Iowa

Paul is the Internship and Placement Coordinator for the School of Journalism & Mass Communication. Paul spent 34 years as a photojournalist, photo editor and director of photography at The Gazette in Cedar Rapids, Iowa prior to joining the University of Iowa. He has been published in several major newspapers and magazines as a freelance photojournalist. Like many in the industry, he began his career as an intern following graduation from the University of Missouri School of Journalism.

Mike Wagner - KCRG-TV9 News

Mike is News Operations Manager for KCRG-TV9 News and for The Gazette newspaper. He worked for KCRG-TV9 as its Iowa City reporter for 15 years and has worked as a newsroom manager since April of 2005. Mike supervises a staff of broadcast and newspaper reporters and photographers. Their work fills the company's TV newscasts, newspaper columns and both of their websites. His staff includes four broadcast interns and three mobile or backpack journalists.

The company also employs several multimedia sports interns and two multimedia interns for the print website.

The Working Academy: University of Bradford and GfK

The Working Academy is a scheme developed by the University to provide real commissioned digital projects for our students that links them with an industry professional mentor. The initiative has generated more than 40 commissions with a combined six figure production budget. One of these projects was an iPad build of a Tech Talk magazine for one of the World's biggest market research organisations, GfK. There will also be the rollout of other platform versions of this interactive digital magazine. To build the app the students were mentored by the Director of digital agency Quba.

Darren Bristow - Co-Founder & Director Quba / project mentor

Darren was the mentor for the GfK project and will represent the University of Bradford. Quba offers engaging interactive experiences via the web. Quba's team of marketing professionals is passionate about finding and building an audience for our customers within a variety of sectors from manufacturing to healthcare, legal services to sportswear, from perfume to publishing. The design team and usability experts focus on converting those new prospects into customers through creating beautifully designed, easy to use online experiences. Whether it's a computer, laptop, tablet or mobile device QUBA consistently delivers results for our diverse client base of global brands and SME's across the UK.

Aoife McArdle - Marketing Manager, GfK

GfK is one of the world's largest research companies. 11,500 GfK experts are working to discover new insights about the way people live, think and shop, in over 100 markets, every day. GfK is constantly innovating to use the latest technologies and the smartest methodologies to give its clients the clearest understanding of the most important people in the world: their customers. That knowledge empowers GfK's clients to make the right decisions, and position their businesses for the future.

Enhancing Employability through Media Industry Outreach: Birmingham City University and News Team International

The Media Industry Outreach Project works with local media industry to identify firstly what potential employers need and secondly to assist in providing suitable students for placement and internship activities. The project is funded by the THE 2011 Award Winning Student Academic Partnership Scheme and employs two current students as Media Outreach Partners. These Media Outreach Partners have been working alongside staff to assist in developing a system and process for securing placement and internship activities for our own students within local media business. These posts are advertised and promoted internally using BCU's Job Book site. The University then recruits and acts as the agent between the students and the placement provider.

Kerry Gough – Birmingham City University

Dr Kerry Gough is a Lecturer in Media Theory and acts as Student Welfare Officer for the School of Media. She teaches film and television theory, and supervises third year dissertation projects. Kerry has published on comic book culture and her research interests include crime programming, film and television horror, science fiction and most recently the generation and sustainability of regional networks of animation workers within the West Midlands. The focal strand that features across much of her research includes the reception and appropriation of media cultural product. In addition to her current teaching and research roles as a lecturer in Media Theory, Kerry also has an active involvement with the student cohort. Kerry and her student partners have recently won funding from the Student Academic Partnership programme for the development of paid student projects within the School of Media.

News Team International

News Team is a leading press agency that works on a daily basis to provide first-class photography and journalism to all national and leading international press organisations and a range of corporate clients. News Team was established in 1986 and for more than 20 years has been commissioned by local, national and global media to provide first-class photography and journalism – 24 hours a day, 7 days a week.

Working Academy website launch

To showcase the industry honed skills gained from Working Academy projects, we have been developing a talent base digital hub that promotes only those students who have actual industry endorsements. Now in beta-testing phase, we are looking to pilot a national roll out of this www.working-academy.com site with a small group of other Universities who have their students working on real briefs. The project is being developed with the support of leading digital agency, twotwentyseven, investment from Creative Skillset and the guidance of Nicky Ball, who in her other day job manages the national crew services for Creative England.

Nathan Bentley - Founder / Director, twotwentyseven

A creative digital agency based in West London, established in 2008 by founder Nathan Bentley (previously Head of Technology for Endemol UK). Our clients include a wide range of high-street stores and products (Uniqlo, Links of London, Innocent Drinks, Unilever), as well as agencies (Karmarama, BMB, BCL) and charities (Child's i Foundation). With our foundations of strong technical experience and impressive design credentials, we aim to deliver high quality, usable, secure, stable and beautiful websites / apps, that are both functional and enjoyable to use.

Nicky Ball - Careers consultant/ Crew & Facilities Manager for Creative England

Nicky is a Freelance careers consultant in Film & TV. She specialises in working with HE & FE institutions delivering Professional development modules to students who are studying media related courses assisting students develop their CV, portfolio, self marketing strategy, contacts and networking by offering specialist industry knowledge. This work assists both career departments & faculties in delivering an employability strategy and exit strategy for students into the workplace. She also works part-time as the National Crew & Facilities Manager for Creative England, the national agency for the creative industries, as part of the Production and Locations team. This involves running a National crew database & crew networking nights and responding to crewing requests of all levels and budgets.

Partnership Case Studies : *Bringing Industry to the Academy*

Academic-Industry Collaboration for Feature Film Production : University of York and Green Screen Productions

There is a formal agreement between GSP and TFTV for the support and production of commercial feature films involving facilities, knowledge transfer and student/graduate involvement. The first project, *The Knife That Killed Me* which is backed by Universal Pictures, started production in April 2012. Completion is scheduled for Q4 2012. The production is being supported directly with production equipment and postproduction facilities, including audio and picture finishing, from TFTV and also involves six recent TFTV Masters graduates who are doing all visual effects work on the film. As such it represents a true academic-industry collaboration.

John Mateer – University of York

John has over 25 years of professional film and television industry experience and 10 years as a UK academic. He has worked as an award-winning producer and director with companies including Jonathan Goodson Productions (in association with Paramount Studios), Gabriel Films Ltd., Ogilvy & Mather and LucasArts as well as several others, and is still active professionally. He joined the University of York in 2001 and is one of the four founding members of the Department of Theatre, Film and Television. His research looks at the relationship between academia and the film and television industries in different commercial contexts

Alan Latham – Green Screen Productions

Alan graduated from St Andrews University in 1983 with a degree in Economics and qualified as a chartered accountant with Arthur Andersen in 1986. He has held a number of Directorships in the film industry including Financial Director of Aurum Press and Commercial Director of BBRK Group Limited. Over the past 5 years, he has produced over 25 films including *Darkness Falls*, *Circus* for Columbia Pictures, *Modigliani*, *Wake of Death*, *I Could Never Be Your Woman*, *The Christmas Miracle of Jonathan Toomey* and *Dead Man Running*. He formed Green Screen Productions in 2008 and serves as the Managing Director.

Graduate opportunities and industry solutions: Arts University College Bournemouth and Framestore

Framestore, the Oscar-winning post production and visual effects house, has recently established a regional outpost to its London headquarters in partnership with the Arts University College at

Bournemouth. In a venture brokered by Skillset, the new studio is based on the ACUB campus with a workforce predominantly composed of graduates directly from its highly respected degree and Master courses. It is a university-business partnership that brings multiple benefits – to Framestore who are able to identify, recruit and develop the latest creative talent, to those graduates who are given the chance to build immediately upon their academic courses with workplace skills, and to the university, which can ensure that the latest innovations and practice from industry inform and refresh its teaching practices on a continuous basis.

Jeff Baggott – Arts University College Bournemouth

Jeff is the Dean of Media and Performance at the AUCB. He was previously Head of the Department of Media Arts and Communication at Sheffield Hallam University. Jeff has substantial experience in media production both as an academic and as a practitioner. He joined Channel 4 in 1982 as a Programme Consultant, Producer and Film maker and then moved on to become Director of The New Cinema Workshop in Nottingham before taking up the role of Film, Video and Broadcasting Officer at East Midlands Arts. His performance work includes four years with the National Youth Theatre and a number of acting roles for stage and television, including the Award-winning BBC series ‘Wednesday Play’.

Sue Lyster - Framestore

Framestore is one of the largest VFX and computer animation studios in Europe with numerous prestigious awards to its name (most notably winning both the 2008 BAFTA and Academy Award for Visual Effects). Framestore employs over 600 staff in offices in London, New York, Los Angeles – and Bournemouth. As VFX Manager, Sue Lyster is responsible for all aspects of Framestore’s VFX crew. Sue studied Economics at Warwick University then took her first step into the industry as a production assistant with a London based animation studio (Richard Purdum Productions), working on a variety of animated commercials and features. Her first contact with Framestore was as a client of their commercials division before joining the VFX team in 2004.

Plenary – Interim Research Report

Presenting: Charles Munro & Christa van Raalte

Charles Munro has been a journalist, manager, industry consultant and educator, for over 30 years. He started as a television trainee news writer at WXYZ, Detroit, and subsequently moved into producing, working at WABC-TV and WCPO-TV, Cincinnati, where he became News Director. Charles moved to Iowa to be a news consultant for Frank N. Magid Associates and,

for nearly 20 years, worked with local broadcast journalists in the US, Canada and abroad. He founded and managed Magid's international office in London, where he provided consultation to broadcasters including the BBC, as well as newspapers in Europe, the Middle East, and Asia. Charles left Magid in 2003 to do independent media management consulting and to lecture at the University of Iowa School of Journalism and Mass Communication, where he also serves as Associate Director of Undergraduate Studies.

Other members of the Research Group:

Dan Berkowitz – Professor & Associate Dean, University of Iowa

Andreas Forslund Persson – Programme Leader for Sequential Arts and Graphic Storytelling, University of Gävle

Rebecca Frierson – MA Candidate, University of South Carolina & VP of Social Media Campaign Management, Mind Media Group

Totte Jonsson - Programme Leader, Creative Computer Graphics - University of Gävle

Mick Stockton - Principal Lecturer for Business Engagement - University of Teesside