Assessing creativity: drawing from the experience of the UK's creative design educators

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Abstract

Purpose – The aim of this paper is to respond to the acknowledged dearth of academic discourse on assessment strategies for entrepreneurship education. Using established approaches from design education as its fulcrum, it proposes a generic framework for assessment of "creativity" in an entrepreneurial context.

Design/methodology/approach – This primarily constructivist investigation is considered in the context of recent UK discussions, empirical evidence, literature reviews and government policies. It includes the UK's Quality Assurance Agency – *Benchmark Statement* for the UK's creative industries and maps the approaches onto entrepreneurship education.

Findings – As assessment of ideas generation, innovation and opportunity recognition are, "Central to developing and learning entrepreneurial behaviours". There are clear parallels between the pedagogic approaches from "design" disciplines and the learning outcomes advocated in generic curriculum development "for" entrepreneurship.

Research limitations/implications – Business school approaches and their associated challenges dominate the entrepreneurship research agenda. Interdisciplinary research, in particular collaborations between the Business and the Creative disciplines, offers opportunities for constructive alignment.

Practical implications – With no intention of "reinventing the wheel", more adapting and refining it, the paper's primary intention is to offer a springboard of thought from which creative capacity in enterprise education might be enhanced and assessed.

Originality/value – This paper contributes to the ongoing debate surrounding issues of assessment and offers insights into established approaches that have evolved beyond the traditional enterprise education environment, one where credit-bearing curricula have managed and assessed the creative process effectively.

Keywords Art colleges, Entrepreneurialism, Design, United Kingdom

Paper type Research paper

Introduction

> Are not innovative efforts by their very nature intangible? How can one measure them? (Drucker, 1999, p. 147).

This paper offers a series of reflections on a subject that appears to be in emergent and developmental crisis – how can creativity in entrepreneurial learning be assessed? The term creativity will be primarily interpreted as ideas generation, innovation and opportunity recognition, as these aspects are, "Central to developing and learning entrepreneurial behaviours" (Rae, 2007, p. 4).

The nature of business has changed dramatically. Manufacturing and production are no longer the gateways to international success and prowess is increasingly measured in terms of innovation and entrepreneurship. Creativity has become the buzzword in what is frequently described in the UK as a "knowledge based economy". Moreover, if entrepreneurship is about "applied creativity" (Rae, 2007, p. 3), then it may be reasoned that we should consult associated academic literature and experience for assistance. Moreover, international texts such as Hamidi *et al* (2008, p. 317) have identified that "creativity may more specifically and proactively influence entrepreneurial behaviour in terms of innovation, product development [and] marketing . . . [and] appears to be strongly associated with entrepreneurial intentions."

Assessing the broader entrepreneurial mindset has significantly challenged traditional business school educators. Over ten years ago Gibb noted there was, "No common code . . . no satisfactory current measurement system . . . assessment of the degree of entrepreneurship . . . and the personal development that results is very subjective indeed" (Gibb, 1998, p. 38). More recently, Pittaway *et al.* (2009, p. 4) comment that, "Assessment practice is important and has perhaps been neglected as a subject in enterprise education". Notably, they claim, this "paper seeks to begin the process of addressing this oversight."

Although it is clearly an important consideration, the authors do not propose to enter into lengthy discussion as to why we assess student performance. The assumption is that unless an activity is extra curricular, there will be a demand for outcome statements, objectives and similar performance indicators. Moreover, Programme validation events and similar "quality issues" demand such indicators to function. Gibb (1998, p. 38), when considering the optimum approaches to developing entrepreneurial behaviours in learners (with their perceived subjective form of assessment), noted that, "Until a satisfactory assessment process is determined, accreditation will have to wait."

The authors propose that guidance has been available but overlooked, as much of the pedagogical focus has remained on the business school environment and the application of business skills in other disciplines. These pedagogies have a tendency to focus on analytical approaches with preponderance towards positivistic engagement, where assessed outcomes are clearly defined and predictable. For example, the citing of appropriate "expert texts" and deconstruction of case studies where analysis can be made with the benefit of hindsight are common practices. These approaches rarely extend into how the lessons learned might be employed in new and unpredictable scenarios. As creativity and predictability are an anathema to one another, the dichotomy highlights significant challenges to this way of thinking.

Design and enterprise – the business and educational context

Those with little or no experience of dealing with "creatives" frequently misunderstand art and design education. It is therefore helpful to remember that the UK's Creative Industries sector has an enviable reputation, with a growth rate of twice that of the rest of the UK between 1997 and 2005 and by that year accounting for £60 billion, or 7.3 per cent of gross value added (GVA) its business prowess is well established. In 2006 the Organization for Economic Co-operation and Development (OECD) found that the creative industries accounted for a greater share of GDP in the UK than in Canada, the USA, Australia or France. Moreover, while, "International comparisons of the creative industries are very difficult . . . most studies put the UK at or near the top" (DCMS, 2008a).

"In 2006, creative employment totalled 1.9 million jobs. This comprised just over 1.1 million jobs in the Creative Industries and almost 800,000 further creative jobs within businesses outside these industries". A total of 4.5 per cent of all goods and services exported from the UK derive from its Creative Industries sector (DCMS, 2008b, p. 6). The sector is also acknowledged to be one of the most educated, with around 43 per cent of employees educated to degree level or higher (NESTA, 2003) compared with 16 per cent of the workforce as a whole.

Initial observations revolve around and contextualize the educational strategies that have underpinned this level of success. The UK's Higher Education Academy, whose "mission is to help institutions, discipline groups and all staff to provide the best possible learning experience for their students" has some experience of this (HEA, 2008). Their Art Design and Media Subject Centre (HEA-ADM) review, "Creating Entrepreneurship: entrepreneurship education for the creative industries" is one such example (HEA-ADM/NESTA, 2007). This report is underpinned by a study by Sally Kellet of the University of Central Lancashire. Kellet undertook a case study analysis of the UK's provision, seeking out examples of teaching that fully engaged learners in the entrepreneurship agenda. Each of the five "In depth" studies identified in Kellet's research "provides a distinct model for delivering entrepreneurship education to art, design and media students in higher education" (HEA-ADM/NESTA, 2007).

One of the five major models identified, that of the former Swansea Institute, now Swansea Metropolitan University, has become a fulcrum for national debate and development. The "sister" subject centre for Business Management Accountancy and Finance (HEA-BMAF) has set up a UK-wide Special Interest Group in Entrepreneurial Learning HEA-BMAF EL- SIG, which is based at this University. One of the authors of this paper, the Group's chair, is from the University's Faculty of Art and Design. Thus, the UK's Business-related educational specialists have combined with the Creative Industries' expertise to consider appropriate ways forward.

Graphic and Advertising designers have become a special focus of these debates, as they are interpreters of business and business needs. These professions communicate ambitions and promote wares and services to target audiences; it would be a vain attempt to name a business or enterprise that does not employ the services of a design creative in the production of advertisements, brochures, web sites or even in the apparent simple dissemination of financial reports to shareholders and stakeholders? These designers have to be experts in research; they have to learn about each new client's business from the ground up. Only then can they seek to purchase some market advantage on behalf of the business they will represent.

Ongoing dialogues on design, creativity and business

At government level, Andy Burnham, former Chief Secretary of the UK Treasury and former Culture Secretary, recently stated that in his opinion "The creative industries must move from the margins to the mainstream of economic and policy thinking, as we look to create the jobs of the future" (Burnham, 2008).

The Italian design engineer turned sociologist Vilfredo Pareto (1848-1923) suggested two mindsets appropriate to this discussion, the Speculator and the Rentier. Like a chef who is constantly developing and enhancing menus, the Speculator continuously looks for new combinations. The Rentier is more conservative and routine; the cook who reads recipes but trusts tried and tested methods. It is clear that the UK government takes a view that the approaches that are in some shortfall are those associated with the Speculator. Their new strategy "reinforces the role of

innovation as a driver of enterprise itself and at the root of all entrepreneurial activity"
(HM Treasury/BERR, 2008, p. 7):

> Our ability to succeed in this new world will be defined first and foremost by our adaptability
> ... Enabling entrepreneurial creativity and innovation will help the UK to respond to the
> challenges and opportunities of globalization (Brown *et al.*, 2008, p. 3).

Thompson (2007), in an article that discusses enhancing the UK's MBA experience,
asks, "How are business schools responding to this demand for competence plus
creativity? He describes an early morning compulsory module for students of
Cambridge University's Judge Business School where the workshop is not being run by
Faculty staff but by senior executives of the advertising giants Saatchi and Saatchi.
Allègre Hadida, a lecturer in strategy at the Judge explains, "the workshop aims to
provide a perspective on business and career development that lies totally outside the
established MBA curriculum ... they should have acquired a range of skills and
techniques to help them to think and act in creative ways" (Hadida, 2007). During a
discussion with the author (Hadida, 2008), Hadida commented on the fact that it was
the expertise of the advertising agency and their client (who set the brief to respond to)
who led the judging of this extra-curricula event.

Moreover, at the Tanaka Business School at London's Imperial College, the view of
Simon Stockley who runs their MBA is "When it comes to innovation, business has
much to learn from the world of design" (Thompson, 2007). The School actively
participates with the nearby Royal College of Art, setting joint projects and bringing in
venture capitalists to judge the results.

The same view is evident in the "Dual Masters Degree" at Illinois Institute of
Technology where "business savvy designers" earn both a Business Administration and
a Design qualification (Alexis and Hassan, 2007, p. 49). The programme is considered to
have a "Unique intellectual foundation" as it combines the skills of the businessman with
those of the designer from outset. Some defining statements help us to comprehend the
essential differences and to appreciate the blending of skills that is required. "Business
Schools have focussed on the economics, financing, operations and marketing of the
enterprise. Design schools have focussed on the creation of distinctive products, services,
and communications for the enterprise" (Alexis and Hassan, 2007, p. 50):

> So it is no surprise that business schools have developed competencies in teaching and
> applying analytical methods ... [they are] trained to break a problem into its constituent
> parts and look for key problem drivers ... Design school students are trained to create a
> range of possible solutions, leveraging creativity and innovative [and sometimes even
> polemic] thinking.

The observation is further simplified with the observation that, "Business students ask
"Why is it broken?" and design students ask, "How can we fix it?" (Alexis and Hassan,
2007, p. 51).

In an exploration of what students wanted from their studies, freshman at
Kauffman Campus in Illinois (Estabrook, 2005, Chart 15, p. 17) wish to undertake,
"Activities related to how to create changes and how to market ideas". This and similar
insights help to inform curriculum development. Not unlike the experience at Swansea
Metropolitan University, where the "Continuous Conceptual Review Model" (Penaluna
and Penaluna, 2008) has led change, it is student/alumni demand and experience that
has fostered such understandings. The approaches are thus inherently "learner-led", as
it is the educationalists that are learners in this context. Jones (2006, p. 336) observes:

> Adopting a Gibbian approach to enterprise education requires the development of a learner-centred approach . . . a teaching style that is action orientated, encourages experiential learning, problem solving, project based learning, creativity and peer evaluation.

Moreover:

> Entrepreneurs acknowledge that there are many ways in which to develop skills and knowledge . . . the advice they value most comes from people they feel have real experience which they are willing to share – mentors (HM Treasury/BERR, 2008, p. 40).

Is this a trait of the entrepreneurial educator?

If we further consider Carey and Matlay's (2007) comparison of the differing patterns of job advertisements between the creative industries sector and business schools, where it was identified that Faculties of Art and Design had more focus on practitioners' skill sets whereas job advertisements for the business school had a predominance of academic qualifications, we must ask ourselves a question. If this research is representative of current approaches to recruitment, where, and how can we find the "real experience" that enterprising students appreciate most?

If the pattern continues where business school-focussed credit and or module-based outcomes are determining curriculum development, yet the need for integration of non-university sector specialists and stakeholders is not clearly recognised, we are clearly at a crossroads in our thinking. Further consider that there are already calls for more professors and academics with high-level qualifications to get involved in the entrepreneurship agenda. Arguably, a PhD that talks about entrepreneurship could be of less value than a practitioner who delivers content designed for entrepreneurship.

Assessment – emergent literature and associated thoughts

Assessment strategies normally assume that lecturers know what the students need to learn, in what order, and how it may be accomplished. There is also an assumption that the lecturer has considerable insight into the ways that students learn. If, as Kandlbinder (2003) suggests, "The goal of assessment is to judge how well a student has learnt . . . to improve student learning or for accreditation of student performance", we see how central the issue is to curriculum developers. Moreover, if lecturers are to communicate their requirements to students effectively, there needs to be a clear value attributed to the specified outcome. Remembering that "Accreditation" is a value judgement placed on our universities to ensure that robust systems are in place and to ensure that institutional performance is measured against its ability to respond to targets; where, in our emergent landscape, are the benchmarks to guide our thinking?

Attention might initially be turned toward the assessment strategies employed in the PhD where "originality" becomes a key issue if a student is to demonstrate clear vision in a structured argument. The creative aspect is commonly described as "a recognised contribution to knowledge" (Murray, 2002, p. 237), and defended at an examining committee. It is here that the "originality" of the thesis is examined and contested. However, academic examiners are often interested in, "ideals and potentialities, they are perfectionists who cannot close a deal, cannot say "this is good enough", cannot easily make a sale or cut a compromise" (Dunleavy, 2003, p. 197), thus, as role models, they might not be the most appropriate mentors for entrepreneurial students or educators.

Pittaway *et al.* (2009) note that that despite utilising a database of over 700 citations, there were only three papers found that demonstrated a specific interest in assessment. Only one single paper (Read and Petocz, 2004) was discovered that examined different

assessment techniques designed for assessing creativity. They state that none of these papers have been published in entrepreneurship journals.

Models identified by Pittaway *et al.* as rare in hgher education were highlighted, for example:

- assessment without examinations or writing;
- strategies of emotional engagement;
- considerations of process over output;
- extended self and peer assessment; and
- practitioner led engagement and experience of "real life" scenarios.

The study comments that "it would be interesting to observe how many of the innovative forms of assessment identified in the brainstorming exercise are used in practice" (Pittaway *et al.*, 2009, p. 87). Had a member of a design-related course of study been present at the focus groups that informed this study, the answer may well have been an emphatic "all of them".

Smith *et al.*'s (2006) 12-month evaluation into the structural problems of attempting to embed entrepreneurship education into UK higher education institutions concluded that it would be difficult to achieve due to: "resource limitations; lack of training in synergistic methods; keeping the freshness alive; finding suitable entrepreneurs to take part in the programme; finding the right space in academic timetable and curriculum." Their conclusions were based on working with a small sample of 16 students from three universities. The students were from Computing, Engineering and, most pertinent to this paper, Fine Arts. The intention being "to minimise institutional mindsets, and maximise the newness, and uncertainty surrounding the 'experiment'" (Smith *et al.*, 2006, p. 555), the diversity was seen to enhance the robustness of the project. Notably, the fine artist is singled out for praise as she had already prepared a business plan and had submitted pieces to galleries and sold everything, yet this student chose to leave the project.

Most pertinent to this paper, Smith *et al* (2006, p. 560) noted that, "Being able to 'team teach' without the constraints of institutionally imposed quality assurance policy and guidance was reported to be extremely liberating, but also very challenging". Reliance upon peer learning and sharing experience evolved, "That happens when you try something very new". Moreover, the team concluded that, "A role oriented culture", as opposed to a highly bureaucratic approach with little opportunity for reflection was the preferable route forward.

The manner in which Smith *et al.* (2006) reflected on their approaches is entirely consistent with the way by which "crits" (critiques) are used to discuss and develop ideas and approaches in the art and design disciplines. Whilst these are rarely seen as formal assessment, they are very much an integral part of the formative assessment and feedback strategies employed. Educators from the design community will immediately recognise the strategy, yet the conclusion indicates that it was "difficult to quantify" (Smith *et al.*, 2006, p. 561), indicating that there is some imbalance between their findings and the manner by which day-to-day enabling strategies are delivered in schools of design.

The critiques of these papers are intended to be indicative of the missed opportunities that may have occurred. The fact that they were prepared by senior academics/thinkers in the UK's entrepreneurship policy environment adds additional impetus to their inclusion.

A short focus on design pedagogies and assessment: is this a paradigm shift that entrepreneurship educators should consider?

Features of entrepreneurial learning include the requirement that: it is action oriented and that entrepreneurs primarily learn through experience, followed by a period of reflection (Kirby, 2007). Kolb (1984) exemplifies this by simply stating that theory should follow reflection and that doing and experimenting lead to mistakes and failures that may guide future decisions.

Entrepreneurs are often required to make snap or "spur of the moment" decisions, based purely on the knowledge to hand – as delay frequently equates to failure in a competitive marketplace. Conversely, academics may ponder and debate a problem or experience "*ad infinitum*", seeking out the key minutiae that they believe to have influenced the outcome. Robustness can be taken to mean interrogation of the "facts", testing them against other academics' texts and thinking. Predicting future outcomes is often a primary goal. This "Positivistic" approach enables us to plan ahead and to prepare programmes of study that will enhance future educational experiences. It is very target-oriented and goal-led.

Constructivist paradigms ask us to build on knowledge and to continuously evolve and develop our knowledge skills and attitudes in response to discovery; decisions are made on the information to hand. This premise is central to these arguments:

> Entrepreneurial minds work differently; they set interim targets and readjust their goals reflexively (Penaluna and Penaluna, 2006).

> Entrepreneurs don't need all the answers to act ... [they] dive in and improvise as soon as problems arise ... They plug holes and quickly change strategies as events unfold" (Bhide, 1999, p. 58).

> Good business plans ... discuss people, opportunity, and context as a moving target (Sahlman, 1999, p. 43).

This premise requires the educator to reassess what targets and goals are appropriate to an environment where, nothing is ever "right" in the sense of it being forecast able, yet the outcome needs to meet the requirements of a predetermined "brief". To help the unfamiliar reader, this process can be illustrated by considering the development of a brand identity or logo. Initially, the "client" (or their agent) will have recognised a need to implement or change their customers' perception of their business. They will be able to brief a design team as to what "tangibles" the company stands for, what its values are and what position it holds in the market place. More informed clients might even speak in terms of "tone of voice" and "brand positioning". The designer will go away and digest this information, research the relevant topics that he or she will associate with the business under scrutiny and start to build a personal perspective of the environment in which this company will trade and compete. This is the "divergent thinking stage", when any found information is recorded and absorbed, even if links appear tenuous. Often visualised as a cone that sucks all potentially relevant information into its core, it is an established technique in the design industry. Marketing experts and other specialists may contribute to these discussions and offer valuable insights and verifiable evidence as to what the company being represented has achieved thus far.

Following a period of "digestion" in the mind, there follows a period of "convergent" analysis of the data collected. This requires the designer to discard or remove elements or findings that are not considered to be of value at this juncture. It is a process of elimination where the findings are considered and acted upon. Holes or gaps in

knowledge are frequently discovered and it is common to see the strategy repeated in a more focussed way, looking purely at the missing aspect or aspects identified (see Figure 1 for a fuller explanation of this process).

An overview of the model
The light grey cones indicate divergent thinking – when research and an "open minded" approach to the identified problem is required. At this point it is important to consider any knowledge that is potentially useful and to record all observations, however abstracted or inappropriate they may appear at this juncture. The central ellipse represents time to muse over, absorb and digest the findings. The dark grey cones indicate convergent thinking, where an increasingly solution-based focus is required. Through this process it is likely that new problems or shortfalls in information are identified, thus another period of divergent thinking is required (second light grey cone) to discover "what you need to know, but didn't realize at the outset". If a timescale is involved, the deadline is the final goal.

Only two sets of cones are indicated here, though there may be many more in a problem-driven enterprise. Identifying and effectively managing this process, with proportionate allocation of time to each stage, is considered key to the development of creative solutions to problems. Specifically, if the first periods of divergent thinking and reflection are not given a sufficient time allocation, the source "material" from which to solve a problem will be limited to the students personal prior experiences.

The model has been used both in individual and group work. It permits "drop in" assessment points, e.g. what is the body of research prior to reflection (stage 1, light grey cone)? It is normally employed alongside multiple/consecutive projects. The shifting and changing of deadlines can also be facilitated using the model, thus a more flexible adaptable learning environment can be redesigned and appropriately assessed.

The authors make no claim to this model being new. It is merely an adaptation of design educators" "*modus operandi*".

The designer evolves a rich understanding of the type and nature of the business being reviewed and the context in which it operates, competitors are identified and new and emergent developments considered. Fresh perspectives are important in advertising campaigns as the design teams are expected to bring new and exciting strategies to the table. It will be the new links, patterns and associations that they have identified that we commonly call "creativity". As new promotional campaigns will most likely accompany

1. Seek out and gather contextual materials and links

3. Demonstrate an ability to discard irrelevance

5. Meet final deadline

2. Demonstrate reflective practice and argue 'connectivity' and links

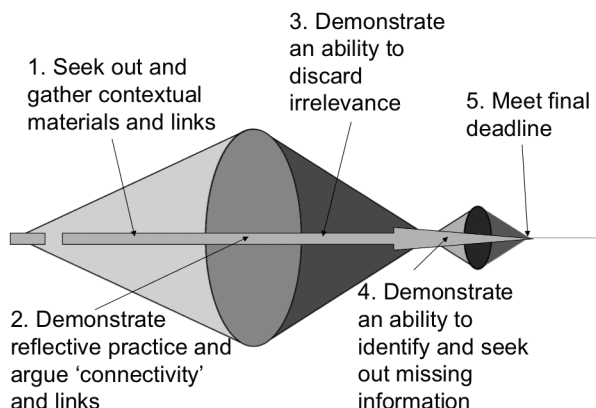4. Demonstrate an ability to identify and seek out missing information

Figure 1.
Framework of the "Design-Based Enterprise Assessment Model", as employed at Swansea Metropolitan University

the launch or re-launch of the client's product, business or enterprise, these communication strategies might also be critical to success. As approaches such as these are central to this argument, the authors offer three very brief chronological case studies.

In the 1960s the ill-fated "Enron" company wished to "unify the chaos of a sprawling business" (Heller, 2003, p. x). It achieved this by employing Paul Rand to design its new logo. In the late 1970s the corporate image of the UK car industry was so damaged following a series of strike actions that it needed a desperate re-think. Wilmhurst (1994, p. 120) reported that the redesigned brand, "Extended beyond the factory floor and out into the surrounding community, going above and beyond representing the company as solely boss. Desire to present the company as friend not threat, has at times merged on corporate maternalism". Amazon's head, Jeff Bezos, considered his revamped company image and associated "well designed" web site to be a prime reason for his success (Saunders, 2001).

The question must be asked, if these outcomes were predictable or in some way pre-determinable, why employ the designer? Moreover, how are such individuals assessed within educational environments?

The UK's quality assurance benchmark statements for art and design

Overly restrictive curriculum, that drives students toward clearly pre-determined goals and outcomes, can seriously hinder the opportunities for inter-disciplinary and entrepreneurially- led projects to evolve. Flexibility that enables students to develop opportunity recognition strategies is a central issue – as the behaviours we wish to enhance are reliant upon such activities.

In its *Pedagogical Notes Series 35, Use of Case Studies Note 3*, the National Council for Graduate Entrepreneurship/Enterprise Educators UK/Kaufman Foundation (2007) International Entrepreneurship Educators Programme notes that, "Cases are no real substitute for active external engagement with real ambiguous situations". Moreover, Timmons (1999, p. 47) suggests, "Failure is often the fire that tempers the steel of an entrepreneur's learning and street savvy", yet, "learning from failure can be emotionally difficult". Isn't it therefore sensible to expose students to such emotions during their studies? Moreover, how will they learn to "bale out" when the enormity of the task outweighs its potential for success? Shepherd (2004, p. 276) acknowledges that learning from emotions "is likely to be very difficult because it is a topic that is less about what we think and more about how we feel". He considers that we, as educators, need to "provide students (with) insight into the emotions of business failure". Brockbank and McGill (1998, p. 161) also discuss this value of errors and the importance of offering the student the opportunity to take responsibility for their own development. Accordingly, Swansea Metropolitan University's design students have become accustomed to the term "Glorious Failures" (Penaluna and Penaluna, 2006, p. 12). This is a form of assessment where the learning is rewarded if the process is correct, even if the outcome is lacking. Considering that, "Fear of Failure is clearly linked to the extent to which people are risk adverse" (HM Treasury/BERR, 2008, p. 25), this approach encourages experimentation and exploration.

As educators we must consider two important factors that make the students wish to learn something. It has to be important: it must have some value to the learner. It must be possible to do the learning task: the learner has to expect success (Biggs, 2003). Race (2001, p. 9) suggests five factors that underpin successful learning:

(1) wanting – motivation, interest, enthusiasm;

(2) needing – necessity, survival, saving face;

(3) doing – practice, trial, error;

(4) feedback – other peoples' reactions to seeing the results; and

(5) digesting – making sense of what has been learnt, realizing, gaining ownership.

With these underpinnings in mind we move to consider a Subject Benchmark. These describe what gives each discipline its identity and coherence. The Art and Design introductory Benchmark paragraphs (QAA, 2008, p. 2) encourage "the acquisition of independent judgement and critical self awareness" and "The capacity to visualise the world from different perspectives" (QAA, 2008, p. 2), "Design is (described as) an activity of creative reasoning ... reliant upon constantly evolving dialogue and negotiation ... is frequently solution focussed" (QAA, 2008, p. 6).

But what of the (perceived) intangible cognitive aspects of the creative process? These are far from overlooked in the Statement:

> The role of imagination in the creative process is essential in developing the capacities to observe and visualise, in the identifying and solving of problems, and in the making of critical and reflective judgements (QAA, 2008, p. 3).

"Essential" makes it clear that this aspect is not one that can be ignored in any assessment strategy. Positive, predictable outcome approaches cannot take into account that:

> The notion of being "correct" gives way to broader issues of value (QAA, 2008, p. 3).

Students are expected to "not only develop the ability to solve set problems in a creative way, but they also develop the ability to identify and redefine problems, and to raise and address appropriate issues" (QAA, 2008, p. 3). This demand is one of the aspects that many educators find difficult to manage, especially as it enables students to develop strategies that lead them to constantly question and appraise their programme of study. For example, in feedback documentation from a recent International Entrepreneurship Educators Programme, Swansea design students who had made their presentations were described by delegates as "those difficult ones to teach" (IEEP, 2008), yet it is clear that these qualities are essential in an entrepreneurial mindset as decisions need to be, "Informed by current critical debate; a shared reliance on curiosity, imagination and empathy" (QAA, 2008, p. 6).

The Benchmark document's section on generic knowledge and understanding sets out key requirements that, once again, map well onto the entrepreneurial mindset. According to Jones (2006, p. 344):

> To satisfy both Alfred Whitehead and Allan Gibb ... an enterprise education should, in general, support student freedom and encourage interaction with ambiguity and complexity.

Students of art and design are expected to "anticipate and accommodate change ... work within the contexts of ambiguity, uncertainty and unfamiliarity" (QAA, 2008, p. 8). For the purpose of assessment, these things have to be proven by example and dialogue and through exercises such as critiques, presentation and reports where reflection is evident. Critical engagement requires them to formulate responses and to identify opportunities for development.

As assessment is undertaken formatively during project-based activities in art and design it requires the selection of careful criteria in the student brief or instruction. This is a key consideration, as criteria have to be robust enough to enable them to be

used in flexible and adaptable manner. It will be these criteria that appear in programme validations and similar documentation.

Glasser believes that "95 per cent of what we learn is by teaching someone else" (in Biggs, 2003, p. 80). This communication aspect is pertinent as design students should be able to "articulate ideas and information comprehensively" accommodating the needs of their audience and developing presentation skills that will enhance their ability to convey their thoughts, ideas and aspirations using abilities to "Source, navigate, select, retrieve, evaluate, manipulate and manage information from a variety of sources" (QAA, 2008, p. 8). These requirements are reflected in the goals that are set during briefing sessions and assessment procedures. It is the educator's responsibility to manage the progressive attainment of these skills and to set assignments accordingly. As presentations and critique sessions with peers, mentors, and "live" clients with whom projects are developed, the students also learn to adapt to the stress of such situations. "Most of us require some stress to cause us to learn" (Heywood, 2000, p. 169).

Art and design students are expected to develop independent learning skills through engagement with progressively complex problems and situations. "Assessment strategies support students' understanding of their learning processes and are designed to foster a deep approach to learning" (QAA, 2008, p. 10). The key word here is "processes". Assessment can be made as to how well a student has responded to the given challenge and the manner by which the process responds to the requirements of the project, the way that the problem has been addressed, not just the final outcome. "Principles of operation" are key outcomes, not merely knowledge. This type of evaluation enables educators to respond to and recognise the aforementioned "Glorious failures".

Jones (2006, p. 346) considers:

> The challenge would seem to be the development of a learning space where students feel comfortable to fail, excited by the simplicity and focus of the literature used, motivated by the freedom afforded to them, yet challenged by the need to engage in various activities through which their personality is drawn out.

In Art and Design's Benchmark Statement, "Effective learning environments are engendered in studios, workshops, production units and computing units", and most importantly, "with staff and students sharing experiences as partners in the process of learning" (QAA, 2008, p. 10).

The Statement's outcomes are offered at what is known as a "threshold level". They are indicative of the minimum levels of achievement that are acceptable, enabling significant "Scope for variations in emphasis that individual programmes rightly wish to place upon them" (QAA, 2008, p. 11).

The following are extracts from the Subject specific knowledge, understanding attributes and skills guidance. Amongst other specified outcomes:

Students should be able to:

- Present evidence that demonstrates some ability to generate ideas independently and/or collaboratively in response to set briefs and/or as self initiated activity.
- Develop ideas through to outcomes that confirm the student's ability to select and use materials, processes and environments.
- Make connections between intention, process, outcome, context and methods of dissemination (QAA, 2008, p. 11).

The document's final paragraphs discuss self management of workloads and meeting deadlines, accommodating change and uncertainty, analysis and the formation of reasoned arguments, critical judgement of self and others, interpersonal and social skills, various ways of communicating and presenting ideas, information management and technologies. All of which may be appropriate to the entrepreneurship agenda. Designers are taught to respond to a set of needs or pre - identified problems. Their expertise and "creative" thinking can positively enhance the trading potential of a client's business, i.e. they are inherently intrapreneurial. The educational process allows the designer to recognise a potential problem, shortfall or opportunity; students are expected to, "display resourcefulness, entrepreneurial skills and the capacity to establish new and innovative enterprises" (QAA, 2008, p. 3).

If, "Effective entrepreneurs are exceptional learners. They learn from everything. . . They learn from experience. They learn by doing. They learn from what works, and more importantly, from what doesn't work" (Smith *et al.*, 2006, p. 556), then the guidance given here has significant resonance. Most design-based programmes are designed to encourage and develop "Intellectual maturity, curiosity, personal innovation, risk-taking, independent enquiry, and effective management and planning skills" (QAA, 2008, p. 8).

If "Constructive Alignment" (Biggs, 2003) i.e. transparency in the links between learning and assessment is to be fully resigned, it is the process of learning that requires our attention. Once a model, such as the Design Based Enterprise Assessment Model (Figure 1), has been developed, it can be used to clarify the approach to students and provides a clear basis for assessment.

Conclusion

A core objective of entrepreneurship education is "to generate more quickly a greater variety of different ideas for how to exploit a business opportunity, and the ability to project a more extensive sequence of actions for entering business" (Vesper and McMullen, 1988, p. 9). An objective for universities is to offer value in terms of feedback and assessment to their students. This text offers insights and experiences that not only challenge some accepted educational norms but also illuminates the design industries' approaches.

The Pareto theory suggests that there are two types of individuals, the Speculator and the Rentier. The former is characterised by the desire to continuously look for new combinations, whilst the latter is more conservative and routine, trusting established procedures and rarely experimenting. If we focus on the communicators who interpret a business, so as to align its goals and marketing strategies with promotional activities, we find ourselves discussing the role of the graphic or advertising designer, i.e. someone who bridges the gap between the two approaches. Such an individual would be expected to be creative in concept, yet conversant with a business potential, sustainability and other operational requirements.

When design students develop new ideas, combinations and concepts, they follow a set of well-established routines or "principals of operation", the Design Based Enterprise Assessment Model offers a working example of this (Figure 1). Experiential learning, preferably in a curiosity-led environment, has proven itself to be most effective in this context (Penaluna and Penaluna, 2006). When systematically and progressively developed, it provides a tool with which problems can be addressed. Educators don't blindly go looking for new ideas, but train their students to employ a set of approaches that may lead to discovery. It is this strategy that makes students adaptable, flexible and able to respond to problems that they have identified – seeing them as opportunities.

The UK's Quality Assurance Agency has recognized these attributes when setting a "Benchmark Statement" to guide assessment. References are less about knowledge and more about approaches/guiding principles. This guidance deals with the assessment of creative students and could enhance the entrepreneurship educators' toolkit of assessment strategies. International studies and reports have indicated that the UK is at or near the top of the game as far as the creative industries are concerned. If design has been such a major component in realizing such objectives, entrepreneurial educators might benefit from understanding its pedagogies and assessment procedures. The QAA's (2008) guidance has evolved from this, it relates not to a single university or other educational establishment, but to the entire art and design provision within the UK, which is seen as inherently entrepreneurial.

Assessing creativity is an area in which art and design educators have had significant experience. In the words of the manager of the UK's Higher Education Academy – Art Design and Media centre, "We have been doing this for over 100 years" (Clews, 2007). It may simply be that the "silos mentality" in our universities has conspired against the transdisciplinary dissemination of assessment strategies. Pittaway *et al.* (2009) ask how we may use assessment to better enable entrepreneurial learning, to what extent potential assessment practices and philosophies might impact on entrepreneurship education as a subject area? They suggest, "a whole stream of work that focuses on assessment practices", as the current system is failing (Brown *et al.*, 2008; Race, 2001 in Pittaway *et al.*, 2009, p. 90).

This paper's primary response is to offer a springboard of thought from which creative capacity in enterprise might be assessed. It has been written in the context of recent UK discussions (EEUK 2008/9, HEA-BMAF – EL SIG 2008/9) and suggests a framework that has been positively received, but has yet to inform the literature.

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