Making Value Matter in a Metrics Melee: Creative Arts and Design Higher Education's Dilemmas (Insights from a Devolved Nation)

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Final report from the Creative Disciplines' Collaborative Cluster

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Executive summary

This paper offers reflective insights concerning the evolving governance milieu in which creative arts and design in higher education (CADHE) sits - drawn from a collaborative project (running 2017-19) which involved representation from seven creative discipline higher education environments in Scotland. The project was designed to look at how CADHE in a devolved context might move forward with articulating its impact in a manner that captures the value of the educational provision as much as the quality. To do this, the project tried to interrogate together, both the potential value of CADHE as implied in multiple policy arenas in Scotland and the evaluation of CADHE in terms of the enhancement of educational provision. Specifically, the project explored how mechanisms relating to both are affecting the way CADHE is being and could be valued and the dilemmas that this creates in a governance environment increasingly drawing on metrics to make funding decisions. A driver for the work of this project was the recognition of the growing influence of metrics in these spaces now in both higher education and the creative and cultural ecology. Another, was the likelihood of a future in which metrics play an even greater and more influential role.

The key observations from this collaborative cluster are as follows:

1. The value of CADHE is, in part, poorly articulated because it emerges in, and is influenced by, a range of creative and sociocultural policy related areas but its role in value creation and cocreation in these areas is underdetermined.

2. The value of CADHE is, in part, poorly articulated because in the policy arenas with which CADHE is concerned, creativity is poorly defined.

3. CADHE's potential value to the creative and cultural economy specific to Scotland and more generally (as well as UK-wide related research critique around this economy) is either missing or noticeable for being seen as a location of lack.

4. Measuring the value of CADHE as a pipeline for Scotland's cultural ecology (not just the creative economy or associated industries) is non-trivial. Consequently, it requires cross-factorial research on outcomes as both within and beyond identifiable business/social enterprise boundaries.

5. Measuring the value of an individual's learning of CAD through higher education needs to demonstrate 'greater than the economic outcomes of its parts' for authentic valuation of what CADHE aspires to and achieves.

6. Measuring the value of CADHE student and graduate activity is beyond the individual and beyond a single discipline. We need to be measuring value-cocreation and recognising how creative value emerges within polycentric networks which, in turn, underpin cultural vitality.

7. Few CADHE leaders are currently well-equipped/supported to use the range of CADHE 'circulating' value indicators as implied by the existence of multiple policy agendas.

Additional post-COVID-19 reflections include:

1. The Covid recovery period will see the influence of metrics grow in governance.

2. It's time to revisit what CADHE is for (and the associated debate about the social contract CADHE has with the communities in which it is located) before this gets lost in an economic recovery narrative.

3. In the face of inequality and climate regime change, measuring the value of CADHE appropriately is just as mission critical as it was before the pandemic.
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Introduction

By 2017, creative arts and design in higher education (CADHE) found itself amidst an uncoordinated metrics melee. Within this, how value was implicitly and explicitly being defined and ascertained was not neutral (Mazzucato, 2018). This continues to be reflected in higher education governance as well as a range of policy arenas in which CADHE is implicated. As rapidly emerging innovation within governance plays out, leaders in CADHE are increasingly being asked to address simultaneously both the evaluation of the quality of their programmes and the value of their programmes in terms of outcomes. Arguably, this is changing the balance of discussions from what CADHE does with its students (and is it good enough in quality and enhancement terms?) to what CADHE does for its students, its broader communities, and the state in economic terms (which are themselves being redefined by metrics related to financial return).

In this sense, the social contract between the state (as a community with a vested interest in higher education’s success) and creative arts and design is being revisited. Pecuniary value as a proxy for quality provision identified via longitudinal metrics associated with teaching excellence (evaluation of) and graduate outcomes (value of) is fast becoming a dominant government mechanism of decision-making around appropriate levels of resource allocation that express the social contract. A driver for the work of this project was the recognition of the growing influence of metrics in these spaces now in both higher education and the creative and cultural ecology. Another, was the likelihood of a future in which metrics play an even greater and more influential role. This, in turn, would require more unambiguous answers from CADHE about its value in the face of these metrics, especially if the metrics reinforced the idea that CADHE student outcomes were dislocated from direct evidence of economic growth in terms of tax revenue, general employability, creative industry generation and, in a way the project members could not have foreseen, indicators for COVID-19 recovery.
This paper offers reflective insights concerning the evolving governance milieu drawn from a collaborative project (running 2017-19), which involved representation from seven creative discipline higher education environments in Scotland. The project was designed to look at how CADHE in a devolved context might move forward with articulating its impact in a manner that captures the value of the educational provision as much as the quality. To do this, the project tried to interrogate together both the potential value of CADHE as implied in multiple policy arenas in Scotland and the evaluation of CADHE in terms of the enhancement of educational provision. Specifically, the project explored how mechanisms relating to both are affecting the way CADHE is being and could be valued and the dilemmas that this creates in a governance environment increasingly drawing on metrics to make funding decisions. As such, the work of the Creative Disciplines Collaborative Cluster fits within a flurry of activity around the value of both higher education and creative practice that was occurring before the COVID pandemic.  

Following an introduction to the project, its devolved context and the metrics melee, insights from the work of the project are presented here under two themes: firstly, the problems with current Scottish policy arenas and research approaches related to articulating the value of CADHE; secondly, the associated dilemmas facing those who wish to measure the value of CADHE with a degree of authenticity whether in Scotland or beyond.

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1 In the light of the Augar review of higher education in an English context and in anticipation of the introduction of the subject related Teaching Excellence Framework (Subject TEF):  
A useful exemplar of the debate was Nigel Carrington’s HEPI blog posting:  
www.hepi.ac.uk/2019/11/13/the-value-of-higher-education-is-too-important-and-multifaceted-to-reduce-to-mere-metrics  
More broadly quantifying and qualifying the value of culture and creativity within it more generally is de rigueur:  
www.ukpol.co.uk/chris-skidmore-2019-speech-at-the-arts-and-humanities-research-council  
This was preceded by increasing attempts to monetize the value of creative arts higher education, for example see: (GuildHE, 2016). See also Bulaitis, 2020, which is also oriented more towards the English context of higher education.
The project: Creative Disciplines Collaborative Cluster

In 2017, a collaborative group (referred to as the Creative Disciplines Collaborative Cluster or CDCC) came together in response to changes in the use of metrics within higher education governance regimes in the UK. The CDCC functioned through a specific opportunity provided by Scotland's Enhancement Themes approach to educational quality, operating as a cross-institutional learning and teaching network. During the course of the project represented here, activity focused on how the creative arts in higher education could develop and communicate effective evidence of the enhancement of programmes and also engage with other key players in the cultural ecology around the impact of these enhancements.

Method and methodology: Social design as a research practice in an emerging field

Key to the implementation of the cluster's work was a social design informed assumption of cocreation of change and related outputs. This was achieved via a collaborative network able to generate visualisations to improve meaning-making in the network and make possible engagement with the processes more likely with arts cultural ecology players inside and outside of higher education (Manzini, 2015). The approach was to underpin defined activities with a stress on the productive conversations that are referred to elsewhere as techniques of relation (TOR) (Manning & Massumi, 2014). TOR views change as primarily a creative process occurring over time that is deliberately managed through formalised interactions, with the relevant context conceptualised as an ecosystem of interacting parts. We manifested this through an iterative cycle of action over two years that involved going beyond the specific network members to various external organisations with insights into the likely forthcoming policy approaches to metrics-based governance within the arts in Scotland.

As such, the composition of the cluster was deliberately centred on different types of higher education creative arts institutions and the diverse skill sets associated with particular disciplines (including representation of those with responsibility for teaching participatory arts, design, fine arts, media and creative industries, creative practices higher education, curatorial practice, and arts events management). It produced its insights through a mixture of cluster member regular conversations and interactions, research, targeted social interactions, and the creation of visualisations to improve meaning-making about the context and implications of assessing the value of CADHE (Manzini, 2015). This mixture occurred over two academic years (2017-19). It incorporated a student-led project, the output from which is on the CDCC Enhancement Themes website. It was also centred on specific engagement with agencies at a Scottish national level with responsibility for aspects of creative arts' policy (Creative Scotland, Skills Development Scotland (SDS), the Scottish Funding Council (SFC), the Scottish Government, the Scottish Qualifications Agency (SQA), and an equalities-based arts charity - Outspoken Arts, as well as the editor of the arts magazine - Aesthetica).

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2 Scottish Enhancement Themes: www.enhancementthemes.ac.uk
3 Creative Disciplines Collaborative Cluster outputs can be found at: www.enhancementthemes.ac.uk//en/evidence-for-enhancement/defining-and-capturing-evidence/the-creative-disciplines
Why a social design informed research practice undertaken by disciplinary players?

The process used by the cluster to generate its outputs is not a particularly novel method in social design practice, especially with respect to the arts (Manning & Massumi, 2014). It is a much less familiar approach in higher education policy and practice circles. With regards to this cluster, it was designed to achieve two aims:

- To give disciplinary practitioners a voice in a context largely dominated by abstracted policy makers and educational researchers (whose aims, orientations, ambitions and professional requirements do not always align with those of the disciplines affected by the change underway).

- To surface preferable pragmatic resolutions in an altering situation. It uses the collective interaction of a network to enable ideas to arise as material transformations occur out of innovation. What was clear from the metrics melee was that innovation in the regulatory spaces was happening rapidly. A new system of judgement was being enabled algorithmically over the top of the pre-existing quality assurance and enhancement systems. The implications of this for CADHE, also coming to terms with similar shifts in other policy arenas in which it plays a role, were not clear. What the TOR process facilitated was the capture of incipient recognitions and concerns of cluster members in real time from their disciplinary practice perspectives at the same time as incorporating materials from a standard literature review to expand the critical nature of the conversation. It is a useful approach when exploring possible 'futures' as a design issue and expands outwards into innovation's unknown-as-yet implications.
Establishing the project's context

While the specific activities and methods of the CDCC are fully described in its open source outputs, to make sense of the problems articulated and the dilemmas observed, it is worth explaining from the outset:

- what cluster members meant by metrics melee (including the cluster's decision to look beyond educational metrics to those emerging more generally in creative and cultural arts)
- the nuances of Scotland's devolved policy context and CADHE.

Value in CADHE and creative ecology in the UK: An uncoordinated metrics melee

In 2016, the government in Westminster signalled the introduction of a changed higher education regulatory regime in which metrics would play a primary if not exclusive role. It then struck a new note of adaptation with the piloting of a subject-level TEF in which metrics would be drilled down to subject area from 2017-19. Scotland opted not to enter into the new approach (Teaching Excellence Framework) in a uniform way, but instead reestablished its quality ecology of Outcome Agreements and the Quality Enhancement Framework (QEF) with the TEF being an optional, distinct activity. The Scottish system restated the importance of enriched evidence of educational enhancement, but recognised that metrics related to impact and outcome needed, nonetheless, to be given more priority. Alongside this, two other creative culture areas saw measurement oriented innovations evolve in both England and Scotland: introduction of identifiable outcomes (with their implicit judgement around value of a given project) in applications for funding for creative arts production and the investigation of the scale, impact and relative value of the creative industries (Gunn et al, 2018: 16-18).

Within the Scottish context, the project identified that the value of CADHE is viewed differently in the different policy arenas involved in impact measurement (Gunn et al, 2018:13-18). Some of its value is assumed through singular case study analysis, some of it through metrics. Beyond monetarised value, many of the indicators of value are what could be referred to as 'circulating indicators'. These are socially and ethically agreed views on what is important to society as expressed through citizen-government relationships. Such views are then partially or completely translated into accountability systems. This includes health and wellbeing, curation of culture for social cohesion purposes (including equality, diversity and inclusion agendas), creative vitality, vibrancy and civic regeneration, as well as rural redevelopment. Accountability mechanisms for these non-interoperable systems are increasingly being converted into metrics-based value judgements.

The melee, then, was defined by project members to include instruments of measurement which encouraged implicit judgement of value in the following categories: creative arts school and college pipelines; creative arts and design higher education; creative arts national and regional funding; creative industries; and creative arts lobbying agencies. It is composed of value for money metrics (econometrics); quality and impact metrics for creative arts national and regional funding (Blanche, 2014; Ekos 2017); direct relationships between creative arts lobbying groups and how metrics can demonstrate the value of the creative arts to a region or country’s cultural industries; regulatory reorganisation of higher education with

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6 www.qaa.ac.uk/scotland/quality-enhancement-framework
a greater emphasis on econometrics, categories of student satisfaction/sentiment metrics cross-referenced with demographic metrics (Gunn et al, 2018: 13-18). It also includes value 'conversion', particularly abstract monetary valuation of cultural capital as associated with the creative industries or, more pragmatically, creativity's value in future workforce development as established in policy circles and having a unique influence all of its own (Allee, 2008; Smith-Bingham, 2006; Hewison, 2015; Mould, 2019; Campbell, 2019).

The CDCC's concerns

The concerns acknowledged by the cluster's members were two-fold:

1. New instruments being used to assess the outcomes of creative education and practices were increasingly implying certain types of value over others (predominantly, public financial investment cost/benefit ratios), without robust engagement in what the perverse impacts might be - not only on CADHE, but also the creative ecologies in which it thrives (and that these are not separable). This was happening at UK level, but had a particular flavour within the devolved Scottish context which was under-represented in the grey literature associated with policy and in relevant research.

This was creating a situation in which the push and pull of multiple agendas, all looking for mainly financial value outcomes, could potentially displace time and resource away from CADHE concentrating on resolving effectively, the rapidly emerging existential tensions in the creative disciplines. For example, misaligned incentives might divert the sector from an urgent need to revisit curricular design and balance in the powerful interface of innovation and tradition in art and design education (Holmstrom and Milgrom, 1991). This is particularly the case in terms of the rapidly and simultaneous revolutions and evolutions in analogue and digital realms and their implications for how CADHE progresses.

Additionally, an overbalanced focus on any one of the agendas might generate an abandonment of forms of success in creative arts and design higher education that ultimately devalues the overall offer. This is, arguably, especially the case in relation to the production of the unique, original, innovative artefacts, relationships, forms of curation as both a core aspirational value and a learning outcome within creative arts and design academic programmes.7 It is most obviously seen in the tensions between reputational markers for art and design (such as individualised nominations for awards, prizes, residencies which depend on originality) and destination of leavers surveys and outcomes metrics associated with tax categories which depend on percentage of students in a given type of employment. These two categories of value need not be oppositional, but overvaluing one might leave the other seeming expendable.

2. That outcomes-oriented debates about the value of CADHE failed to grapple with a sense amongst the cluster members that value is created and co-created by CADHE students whilst on their programmes as well as afterwards; that this occurs across disciplinary and policy sector boundaries but that there was, as yet, no effective way of measuring this.

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7 This insight emerged as part of the CDCC's prototyping of the impact toolkit at a joint QAA-CHEAD event at Edinburgh University in May 2019. It was introduced to the participants through the work of the Arts and Humanities Research Council (AHRC) funded creative cluster on creative informatics at Edinburgh University: https://ahrc.ukri.org/innovation/creative-economy-research/the-creative-industries-clusters-programme and informed by Miller, 2008.
Value creation, cocreation and cultural vitality

In this context, value creation and value cocreation are taken to mean how CADHE players (students, staff, curricular methods and practices, external parties with whom students and staff interact) create something of worth, significance, and impact in a manner that can be attributed individually (value-creation) and as the outcome of collaborative working with others in a creative network or networks (value cocreation). Drawing on the literature of sustainability, value creation and cocreation is assumed here to be articulated through systems which can address simultaneously different types of value. These include, not only instrumental value (currently the main focus of the metrics melee and its co-option into the skills agenda), but also place-based relationships and their value, and forms of social value associated with ethical choices and ways of being (Himes & Muraca, 2018).

In terms of this project, value creation and cocreation in CADHE are a key feature of cultural vitality within Scotland and that it is within this notion of cultural vitality that educational outcomes should be measured (rather than primarily student sentiment and economic outcomes). The concept of cultural vitality (and its potential associated forms of data to indicate its extent and impact) is not new. It was defined in the USA in 2006 as ‘evidence of creating, disseminating, validating and supporting arts and culture as a dimension of everyday life in communities’ (Jackson et al, 2006). It has been used to conceptualise social assets for measurement, particularly in urban centres, capturing the intensity of indices of culture, such as cultural vibrancy, creative economy and enabling environment (Montalto et al, 2019).

In the material presented here, quality as well as diversity of life, community dynamics and conditions, and the potential for inclusive participation become the focus of value and its creation and cocreation. This was assumed by cluster members to be of value to both urban conglomerations and rural communities. Three domains are basically the frame of reference from which to judge the value of activity: presence (providing opportunities for cultural participation - cultural vibrancy); participating in cultural activity; providing support for cultural participation (Jackson et al, 2006, p 17). As used in this project, cultural vitality is focused on the networks that students are encouraged to interact with and build whilst on their programmes but also the networks that they influence and build when they graduate. This is because the value added here needs specific expression currently not available in a form that can challenge the dominance of econometrics. In retrospect, the CDCC saw the potential networks in terms of the creative individual student, disciplinary specific forms of agency and engagement, interaction with the creative and cultural ecology, health and wellbeing, broader skills and economic impact. Cultural vitality has not yet been used within Scotland to explicitly explore the value of CADHE.

The policy context in Scotland: A shifting political landscape around value

As part of the devolution settlement in the UK, higher education is reserved to Scotland, with policy being established via the legislature at Holyrood (Edinburgh). However, a degree of jurisdictional plurality exists. This means changes in UK-wide policy intersect with those reserved to Scotland, not always easily. This is particularly the case with regard to how creative and cultural higher education is influenced through a range of policy structures which exist via both Holyrood and Westminster (London) ministries, independently. Whilst the Collaborative Cluster represented here focused primarily on the emerging narratives in the Scottish governance and funding landscape, it sought to compare these with: emerging

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8 There is alignment with the Follett and Rogers, 2015 AHRC cultural value report approach and also Mulgan et al, 2019 public value report.
debates generated by UK-wide reviews related to public value and the creative and cultural ecologies (Bakhshi and Davies, 2019); the creative industries (Balzagette, 2017); the emerging higher education accountability system in England (with the introduction of the Office for Students); as well as European exploration of the value and values of culture (Culture Action Europe, 2018).

In this context, it is of note that the governance of higher education in Scotland has emphasised the enhancement of education through a cross-institutional collaborative infrastructure funded via the Scottish Funding Council. To date, this has been culturally and politically very different to the governance structure introduced through and by the English, Office for Students (focused mainly on TEF) and, in particular, metrics disaggregated by subject which captured graduate outcomes in economic terms). In the Scottish context, at the time of completion of the project here (late 2019), the question of the value of creative disciplines in higher education had, as a result, been less obviously linked to a changing higher education governance structure and, through the work of the SFC and SDS, more associated with the development of policy statements on cultural policy, the skills agenda, and the creative industries (Ekos, 2017; Skills Development Scotland, 2018.)

Despite the cultural/political differences, however, it is clear that the question of the value of CADHE was being raised by both systems, each one of which was increasingly using metrics to assess higher education performance. Part of the impetus for this project, was to ensure that the Scottish CADHE sector, still heavily dependent on qualitative forms of evidence to demonstrate its value and quality, recognised the shifting governance landscape and its potential implications for the future of creative disciplines.
Problematising the Scottish policy context: Obstructions to value articulation of CADHE

Over the two years of the project, we identified the following as key problems in current policy arenas facing CADHE when it came to measuring its value and articulating its impact:

- The value of CADHE is, in part, poorly articulated because it emerges in and is influenced by a range of creative and socio-cultural policy related areas yet its role in value creation and cocreation in these areas is underdetermined.
- The value of CADHE is, in part, poorly articulated because in the policy arenas with which CADHE is concerned, creativity is poorly defined.
- CADHE's potential value to the creative and cultural economy specific to Scotland and more generally and in the UK-wide related research critique around this economy is either missing or noticeable for being seen as a location of lack.

The value of CADHE is, in part, poorly articulated because it emerges in and is influenced by a range of creative and socio-cultural policy areas yet its role in value creation and cocreation in these areas is underdetermined.

To a certain extent, signature aspects of CADHE pedagogy - studio and the briefs associated with it, exhibition, showcase, live projects (work-related and work-based learning opportunities with employers and creative catalysts/ producers), interim/neophyte creative productions, and new audience generation - each thread tangible if temporary connections with socio-cultural aspects of the state and its policies. The degree of influence each policy area might have is determined by the specific institution's curricular nature and balance, but direct and intangible links into workforce planning and skills, health and wellbeing, business and innovation, cultural and creative ecologies are often materialised in the art and design education represented within the cluster. As such, CADHE in Scotland operates within a wide array of policy agendas, within each one of which there is a potential for value to be created and cocreated by our students, our graduates and the players of a given sector.

In Scotland, the responsibilities for the policies related to these sit within various different government and arms-length bodies but can be summarised under four headings: higher education (with agendas managed via Scottish Funding Council); economic, business and skills (performance oversight through Skills Development Scotland, Enterprise agencies, and innovations/industrial strategies); cultural (facilitated by Creative Scotland and policies set through Scotland's cultural strategy); and social wellbeing (health). The value of CADHE in each of these sectors, particularly as associated with outcomes, however, is rarely defined meaningfully anywhere other than in higher education and its association with the skills agenda. Where evidence of value is covered in broader arenas, this tends to be done through individual case studies which enrich a narrative of value without being easily integrated into relevant metrics and the types of value they represent or imply.

The difficulty here is that policy areas other than workforce and skills are also locations for both CADHE students in programme learning experiences (and students' impact on their communities whilst they are studying) and the impact of their education in terms of what they do post-graduation. This means that CADHE is part of a place-making regime in which value related to learning as well as postgraduation
involvement is created but as yet uncaptured. Instead, where there is evidence, what is being captured is the lack of correlation with indicators used by government, leaving CADHE vulnerable to investment shrinkage.

More specifically, curricular activities are designed to encourage unconventional connections which stress porous engagement with the world around the curriculum (Gunn et al, 2018; Gunn et al, 2019; Mulholland, 2019). This is assumed to be achieved via intersecting practice and collaborative learning in our explicit and implicit (not always predictable) spaces of teaching. This inevitably fosters boundary breaches from higher education into other policy silos but without a mechanism for converting such breaches into value statements. Value drawn from the intersections of creative students and graduates with creative agents in and between the diverse policy spheres in the Scottish context is largely missing.

There is a tension in this absence: CADHE value is unaccounted for in these spaces but is, nonetheless, vulnerable to changes in them. Reorientations of emphasis (and with them shifts in funding) in cultural, wellbeing, innovation, business and economic sectors all affect what CADHE can achieve with its curriculum and also where and how its students create value through and after this as a result. (This was clear during the project’s operation and has certainly become clearer as conversations about post-Covid recovery have been initiated). Yet, when it comes to asserting and measuring value of CADHE - making the links between our students, learning, teaching and assessment on their programmes and then afterwards - creativity in different levels of the social (as fragmented into policy categories) is essential. The interconnections in these social spheres make up the larger whole of value which we might claim as core to their education, development and subsequent outcomes. These social spheres occur at multiple levels and not just in economic policy terms.

The value of CADHE is, in part, poorly articulated because in the UK and Scottish specific policy arenas with which CADHE is concerned, creativity is poorly defined.

The value of creativity is not a recent addition to government policies. The disentangling of the nature of creativity in terms of creativity as a form of being within the human condition, divergent design-thinking (ingenious and imaginative problem-solving with conceptual and practical elements), or a specific disciplinary expertise is, however, lacking. Arguably, each one of these areas of value identification can provide a location for impact analysis of CADHE students and graduates.

An acceleration in interest in the value of creativity is most obvious in the sophisticated associations between creativity as a ‘meta-skill’ in which design thinking and adaptive resilience are brought together with assumptions regarding the future workforce (Gunn & O’Neill, 2019: 3-4; Campbell, 2019). The period of our project witnessed a significant push of this nature within the Scottish government's approach to the creative and cultural ecology as developed in school and further education (Skills Development Scotland, 2018). This makes the links between ways of being and ways of thinking almost indistinguishable, at the same time as potentially eliding specialist art and design expertise. We also saw a growth in educational research that is likely to influence these policy agendas regarding making higher education in general more creativity oriented (Norman, Oliver & Wisdom, 2006).
One of the tensions that exists as a result of the push and pull of multiple agendas in the same valuation space, is how to manage the potential elision of the value of specialist CADHE outcomes. CADHE policy imperatives arguably need to primarily maintain identifying and analysing the worth of expert creative practice within both specialist creative ecologies and broader economies. This has to occur at the same time as broader educational, economic and cultural policy is apprehending the value of generic creativity as an individual and social good in terms of wellbeing, problem-solving and innovating in the face of rapid technological change. At a pre-higher education level, the scale of this pull and push from various policy agendas was captured explicitly in the Durham Commission on Creativity and Education 2019, where creativity was seen as having value in terms of identity, community, mobility, and wellbeing (Durham Commission, 2019).

These policy arenas (specific CADHE-creative ecology policy and broader educational, economic and social policy) can be in competition with one another regarding investment, especially in periods of fiscal austerity or statewide economy contractions. They can also (perhaps more pertinently to the aspirations of CADHE) be in contradiction of one another. Consider, for example, the creative expertise which is counter-cultural criticality that:

- creates alternative and sometimes conflicting realities
- produces new ethics of the imagination
- changes our interactions with materials and, through this, radically reinterprets the relationship between craft and art
- disrupts our comfort zones by shifting aesthetic norms
- refuses to be useful.

The value of this in a context of competing locations of valuation, might be invisible for a long time. The value that emerges from social acceptability and respectability and that of creative arts and design creativity do not always make comfortable companions (Tosey, 2006: 29). Establishing creative production's value including the value produced whilst learning is paradoxical.

Current conversations regarding creativity as a meta-skill need to adequately map onto how creativity is learned; the difference between creativity as holistic expertise generated through the properties of a studio-based learning environment and creative approaches to problem-solving in complex environments learned in other curricular contexts; how and why the outcomes of each function within and beyond the creative economy. We also need better ways of identifying how innovation emerges through a critical dependence on translations of coherent creative fields. This does not negate creativity as a meta-skill, but does qualify it from a generalist skills perspective into at least two categories:

1. Holistic creative practice expertise in which the critical counter-cultural may be a path to originality
2. Creativity as a way of thinking which is part of a coherent ‘design-thinking package’ within adaptive resilience aimed at social coherence.

These two categories are both parts of the same whole (what does it mean to be creative?) and also two distinct elements within the needs of the skills agenda.
CADHE’s potential value to the creative and cultural economy specific to Scotland and more generally and in the UK-wide related research critique around this economy is either missing or noticeable for being seen as a location of lack.

As policy appropriation and definition of the creative and cultural economy in the UK has grown, so too have significant critical analyses of these approaches (Hewison, 2015; O’Brien, Allan, Friedman & Saha, 2017; O’Brien, Laurison, Miles & Friedman, 2016; O’Brien & Oakley, 2015; Oakley & O’Brien, 2016; Mould, 2019; Campbell, 2019). The work of Clews and Clews (2011) and Comunian, Gilmore, and Brook (Comunian & Gilmore, 2011; Comunian & Brook, 2019) explores how creative disciplines provide integral infrastructure for cultural and creative ecologies and are cultural participation enablers - insights which can be applied to the Scottish context. One consistently under-represented area of such criticality, however (as demonstrated throughout the project’s work), has been the relationship between CAD-specific higher education curriculum design and quality and its impact and value. This is especially the case in terms of how the sector can demonstrate the value of the porosity it manifests (and why this is as much an issue of quality as of value) and its impact in and value to Scotland’s cultural vitality. This is not, of course, just a Scottish problem, but a UK-wide one (Carey et al, 2019).

There is a particular gap in current research in terms of how quality, impact, and value could be measured through higher education teaching, curricular regimes and what students do whilst studying, and why this is important. Thus, whilst, sophisticated sociological problematising of the creative economy and its higher education ecology has interrogated the dark side of capitalist growth and inequality, this has occurred without necessarily engaging in what this criticality means for the design, management of, and continuation of teaching in CADHE. Instead, where conversations exist, they tend to devalue what we do as locations of lack: lack of drawing skills, lack of business and enterprise training, lack of practical skills, lack of digital readiness, lack of inclusive engagement, lack of enough transformative opportunities in the face of neoliberalism, lack of operational radicalism in the face of the industrialisation of CADHE, lack of correlation between numbers of creative students and the size of a creative economy (NESTA PEC, 2019; Phillips, 2015; Comunian, Faggian & Jewell, 2014). Indeed, from such a list, one thing is obvious - depending on the research and policy context connected to the creative economy, CADHE is contradictorily positioned as either not pragmatic or not radical enough and, either way, instruments to measure value creation and cocreation are deficient.
The dilemmas associated with these issues for those who wish to measure the value of CADHE

With these problems in mind, the insights of the project related to measuring the value of CADHE are described in more detail below and arguably capture principles which can be explored beyond the Scottish context. In summation, these dilemmas are:

1. Measuring the value of CADHE as a pipeline for Scotland's cultural ecology (not just the creative economy or associated industries) is non-trivial. Consequently, it requires cross-factorial research on outcomes as both within and beyond identifiable business/social enterprise boundaries.

2. Measuring the value of an individual's learning of CAD through higher education needs to demonstrate 'greater than the economic outcomes of its parts' for authentic valuation of what CADHE aspires to and achieves.

3. Measuring the value of CADHE student and graduate activity is beyond the individual and beyond a single discipline. We need to be measuring value-cocreation and recognising how creative value emerges within polycentric networks which, in turn, underpin cultural vitality.

4. Few CADHE leaders are currently well-equipped/supported to use the range of CADHE 'circulating' value indicators as implied by the existence of multiple policy agendas.

The first three dilemmas are about how CADHE can and possibly should articulate value through links to the cultural vitality of place. These dilemmas also raise the prospect of how is it able to do this when it is primarily tied to more uni-dimensional instruments of measurement which, in turn, are aligned to generic higher education regulation (rather than the broader range of potential policy arenas touched on by the project). The last one is a practical indication of how articulating value as part of curriculum quality and evaluation is an area ripe for enhancement approaches.

Measuring the value of CADHE as a pipeline for a country's or region's cultural ecology (not just the creative economy or associated industries) is non-trivial. Consequently, it requires cross-factorial research regarding outcomes as both within and beyond identifiable business/social enterprise boundaries.

CADHE in Scotland claims to provide a valuable pipeline into post-graduation occupations, contributing to a constantly evolving sociocultural ecology (and its associated enterprises and meaningful occupations) whose vitality is judged of worth. Measuring the value of this is complex. This dilemma is not a particularly novel observation in explorations of CADHE's impact generally or, for that matter, pipelines relating to the creative and cultural industries (Carey et al, 2019). However, latest attempts to quantify the linear trajectory from student learning into postgraduate occupation in Scottish skills related policy arenas, re-establish problematic assumptions about how the pipelines from CADHE to the broader cultural ecology work (Gunn et al, 2019).

Creative arts higher education graduates do not just stay within the creative industries or within self-employed creative practice to make a living, but rather make up a much larger creative worker group which makes a contribution to the broader sociocultural ecology (Bridgstock and Cunningham, 2016, p14; Gunn et al, 2018:10; Carey et al, 2019). Additionally, although graduate activity in creative arts and design sectors
provides evidence of economic value, this is likely to be a result of as much tangential activity (connected to other relationships within society and alternative pipelines into a creative ecology), as it is a direct trajectory from CADHE into creative work. Even with the explicit development of both work-related and work-based learning activities within creative arts programmes, apparent time lags connected to making a registered-in-the-data living remain tenacious (a particular concern of SDS). This makes the links between how CADHE enhances its professional and work-related activity within the curriculum and the impact beyond the curriculum difficult to register and the value from these links difficult to ascertain in economic terms.

Additionally, as with previous research on CADHE about a broader skills agenda, the project's analysis of these pipelines in a devolved context emphasised that a cultural ecology's emergence is neither straightforward nor limited to economic indicators associated exclusively with the creative industries and forms of CADHE that are assumed (sometimes erroneously) to underpin them. This means the abstract valuation associated with the creative economy does not directly relate to CADHE provision. Measuring value in such a context is fraught. Any assessments of value need to include/consider at least that pipelines into the creative arts and associated enterprises are not necessarily straightforward graduate professional employment pathways (although in some disciplines in CADHE they can be). That this is the case, however, should not be sole justification for a reduction in resources because such justification ignores the unsubstitutable value that emerges within the parameters of cultural vitality.

To address this, the collaborative cluster challenged the linear notion of learner journey used within Scottish higher education policy and reframed it as the learning journey. The learning journey is frequently more one of deviant gyrations within and beyond a given creative system than horizontal or vertical lines through such a system (Gunn et al, 2019: 7-9). As a result, a key property of CADHE needs to be immersion into the whole of a creative system as relevant to a discipline. This is anchored through the loose and ideally porous nature of how a programme is delivered (including the disciplinary and general values articulated by exposure to professional and customary ethics). It gains coherence not just through attendance in time in a specific space but rather through relationship management, embodiment, and materiality which operate across the system's boundaries (Gunn et al, 2019: 3-5). Out of this comes creative practice as an aspiration directed towards creative innovation and a form of assessable expertise.

This means that the spaces in which expertise is acquired are not neatly confined to a given higher education institution’s teaching spaces (Gunn et al, 2019: 5). The value of what we do is then embedded across a community as well as being a distinct outcome of an individual student. As such it is a form of living legacy (Gunn et al, 2018:18). Consequently, our students need to apprehend the properties of the environments in which they generate work, so that the notion of 'studio' oriented/based learning defines a symbolic way of working as much as a geographical location. It also means that assumed appropriate time scales for funding of CADHE do not necessarily align with the actuality of developing the expertise (which, in turn, relates to activity that will generate the sort of income likely to show up in current models for measuring economic graduate outcomes in certain categories of creative industry). This was a particularly important observation in the learning journeys.

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identified for some maker communities, where both conceptual innovation as the dominant pedagogical principle in CADHE and a particular materials expertise as focused on in further education were brought together to make a pipeline into self-employment (Gunn et al, 2019: 5).

In relation to this, it was clear that technological innovations were also changing the intersections between traditional CAD maker activity and evolving the relationships between art and craft in distinct ways as yet not clearly valued within pipelines analysis or, for that matter, CADHE pedagogical adaptation (Gunn et al, 2019: 5). In turn, this suggests that 'new' value is being generated by our students whilst they are studying with us, not just afterwards (hence the idea of living legacy). This is not only in their communities through live projects that we establish, but also through their evolution of our disciplines within the fluid world of creative wisdoms emerging as they pull the digital into the traditional (Gunn et al, 2019: 5). Arguably, our students are as much value generators in the unstable assemblage which composes the creative economy as our graduates (Moreton, 2019). Ideally, to address questions of value, this observation suggests the methods used by subject leaders to evaluate their educational provision and enhancements made to it (typically done in annual cycles), require adaptation to include indicators of impact currently not yet defined in typically quality based regulatory systems (Gunn, 2019b: 7-8).

Existing instruments for measuring impact need to be rebalanced so as not to over emphasise either a singular spatial context or a linear pathway through education and training. Rather, we need more nuanced ways of mapping and valuing the impact of learners who are engaging in the cultural ecology (including the creative industries, social enterprises, and activities that are distinct components within it, but not exclusively so). This needs to be done whilst they are studying and then in the range of post-graduation situations in which they find themselves (not always ones attached to economic gain). If our instruments almost exclusively value post-graduation income and associated outcomes, this misses the value co-created socially, culturally, healthwise, and educationally that come together to provide a map of cultural vitality. How can we measure these other categories of value?

**Measuring the value of an individual's learning of CAD through higher education needs to demonstrate 'greater than the economic outcomes of its parts' for authentic valuation of what CADHE aspires to and achieves.**

The value of an individual's learning in CADHE is bound up with the intersections of specialist agendas, individual creative will, and contextual needs (both in abstract economic terms and lived communal ones). How we measure this is underdetermined and requires a robust interaction with debates regarding the benefits of creative arts and design higher education from as much a creative practices perspective as an econometrics and student sentiment one. This means understanding the interactions of pedagogical practices (both distinct and porous), professionalism and specialism, and ethics and values to generate immaterial as well as material benefits (Gunn & O’Niell, 2019: 2-3). In terms of the value of immaterial CADHE outcomes, the following points are key. Firstly, seeing differently and making visible, creating the visual, differently, changes how society interacts with the individual and vice versa, demonstrates the fallacies of our dependence on social certainties, and helps us imagine and materialise new media, new ideas, new worlds of lived experience. In CADHE, how this is achieved has a disciplinary flavour.
Secondly, learning to marshall uncertainty, identified as a key pedagogic aspect of studio-based art and design learning provides individuals with a range of graduate attributes arguably critical to notions of the fourth 'industrial' revolution and the skills described as 'now and future needs' (Orr & Shreeve, 2018). However, neither of these points can be easily reduced to notions of 'creativity' or creative thinking because together they tend to be about socially, symbolically and object-wise making, unmaking, and remaking visual, sensual, and social polymathy which in some cases are oriented towards social radicalism and in others towards socio-economic pragmatism and sometimes both at once. In this context, an initial definition of such polymathy is: the capability of art and design students and graduates to become 'creative experts' who have honed their visuality and aesthetics dexterities, haptic and making skills, and integration of four types of reason: deductive, inductive, abductive, and pre-configured (or the reason of nothingness) and from these categories become capable of generating new media, ideas, worlds of lived experience to a quality defined by disciplinary fields (Gunn, 2019a). Within this, as a network we identified the following definitions of success for our students - that they could prosper in uncertainty, were adaptable, empathic agents of change, had critical awareness, activist perspectives and persistence (Gunn et al, 2018: 27).

Additionally, we explicitly agreed four interwoven CAD higher educational assumptions as part of the project’s toolkit for reflecting on impact:

- Creative disciplinary expertise is fostered through a curriculum centred around uncertainty. In this, the curriculum needs to ensure that students deliberately, accidentally, and serendipitously move across the boundaries of familiarity into spaces and times of unfamiliarity.
- Creative disciplines' disciplinary expertise is professional but not exclusively in the terms of a given creative industry.
- Values as well as value are central to the work of the creative disciplines.
- High levels of porosity between the programme and the cultural ecology are necessary to provide the conditions of creative disciplinary education.

These, in turn, emphasised the importance of self-authorship, problem-solving, boundary-crossing, sophisticated criticality, materials literacies, and being adaptively resilient, professional, ethical and engaged with communities to demonstrate polymathy (Gunn & O’Niell, 2019: 2-3).

Measuring the value of CADHE student and graduate activity is beyond the individual and beyond a single discipline. We need to be measuring value cocreation and recognising how creative value emerges within polycentric networks which, in turn, underpin cultural vitality.

The importance of cocreation for economic and social value was established for higher education as central to research through the Arts and Humanities Research Council commissioned report, Articulating Cocreation for economic and cultural value (Follett & Rogers, 2015). Arguably, research emerging on the role of the broad higher education sector in the prosperity of the cultural and creative economy also recognises this line of inquiry (Comunian & Gilmore, 2016; Ashdon & Comunian, 2019). As a relevant aside, in terms of potential research-teaching links as an enhancement issue, teaching excellence as implied by the pre-existing metrics’ instruments debate has, as yet, failed to interact with the arts researcher privileging of the cocreation of value.
Rather, teaching excellence in cocreation terms tends to reside in the mutualising and democratising of student voice in curriculum development - an internal generic pedagogic focus for cocreation (Lubicz-Nawrocka, 2017; Bovill, 2020). This is not quite the same as creative arts and design learning and teaching representing a porosity in which cocreation is central to the discipline's ways of making-meaning, its role in cultural vitality, and thus impact in terms more familiar in research circles than teaching excellence ones. What the research side of the academic house emphasises is the importance of impact beyond the individual student learning experience on programme to a quality of life enhancement in the social.

To shift the emphasis towards this quality of life, impact of CADHE requires a reconceptualisation of how impact works through CADHE. CADHE creates value through reciprocal interactions in which the soft-power value (not necessarily easily numericised, monetised, or substitutable) emerges in places and over times where no single ‘centre’ exists. This is an expression of polycentricity. Polycentricity is emerging as a key paradigm for mapping the creative industries in micro-geographic perspectives and might provide CADHE with a useful model (Ostrem, 2010). Polycentricity recognises that value is co-created through multiple interactions where power and different types of value may be located in different places to build holistic value (Ostrem, 2010). Its potential use as a way of accessing the value of CADHE merits exploration in the debates around the relationships between CADHE and the creative industries.

Polycentric contexts, for example, include multiple formal and informal locations of impact and value cocreation. If we depend on value cocreated in one (typically aligned with discrete policy sectors) to establish our worth, but miss the alternative forms of value created in the other (such as localised but ‘under the radar’ counter-cultural community impacts), the value we are identifying is only part of a much larger collective narrative. In the context of this project, the most obvious example of this is student sentiment and graduate outcomes measures which cannot capture the value of our students whilst they are studying to the cultural vitality of a country or region. Consider particularly how student participatory arts’ practices, digital experimentation, and live projects facilitate unpredictable forms of cultural engagement and audience generation which in turn become a locus of other graduates’ outcomes. As Joshua Dector (Dector, 2013: 220) eloquently asks: ‘How do we trace the repercussions - the reverberations - of creative acts upon the fabric of cities [or rural contexts], in relation to the imaginations of citizens? What happens when art seems to disappear into the networked flows of social encounters?’ In this sense, the insufficiency of CADHE current value assessment in policy was absolutely clear in the Scottish policy context (Gunn et al, 2018: 15-17).

Although this paper does not revisit the project's initial critique of the current metrics being applied in the CADHE governance landscape in both Scotland and the UK (Gunn et al, 2018: 8-12), there is one principle from that critique that requires reiteration here - policy designers across the various agendas urgently need to address the startling gap between higher education instruments of measurement emerging out of one locus of power (higher education governance) and CADHE as a space and time of polycentric value creation and cocreation that operates across (and despite) policy boundaries.
Few CADHE leaders are currently well-equipped/supported to use the range of CADHE 'circulating' value indicators as implied by the existence of multiple policy agendas.

Our work demonstrated the difficulties for CADHE leaders in this context. When it comes to generating robust impact statements within a Scottish context that engage with evidence beyond singular case studies and address current governance indicators (student satisfaction and graduate outcomes), cultural policy requirements (as translated by creative arts funding regimes), as well as broader social value, there is a lot for CADHE leaders to learn.

The Toolkit for impact, with its focus on evolving programme, course leaders, and students' understanding and ways of articulating impact of their educational provision through a reflexive practice, remains a relevant practical instrument for programme teams (Gunn & O'Neill, 2019). Indeed, in the light of post-Covid social recovery, the Toolkit's emphasis on adaptive resilience might prove to be timely. The briefing for new CADHE programme leaders commencing annual review of their programme's learning and teaching as part of a quality process also remains pertinent and, as notions of a holistic tertiary sector in Scotland arise from the Scottish Funding Council's review of further education and higher education, may be of use to CADM programmes of study in the further education sector also (Gunn, 2019b).
Implications for Enhancement Approaches: A Covid postscript

Expressing the value of CADHE, the associated complexities, and the need to make value matter to a broad range of interested parties in a way that does not fail art and design higher education was an imperative before the COVID-19 pandemic. This was not just for educational enhancement purposes. It was increasingly speaking to what the social contract between CADHE and the state was and how this might play a future role in determining what educational provision for art and design would look like. Indeed, this informed the coming together of the CDCC. With this in mind, the following reflections are pertinent:

The COVID recovery period will see the influence of metrics grow in governance.

However, the current methodology, methods (numerical, textual and visual) and instruments that the governance systems in Scotland (like most relatively small states but also the bigger sisters on which they might come to depend on for data) can call upon to assess CADHE impacts and outcomes, are woefully inadequate. Yet, metrics will be used more not less and, whilst the mechanisms underneath them will evolve, how this happens will depend on:

- The social contract with higher education in general and cultural and creative practice specifically deemed of worth by the state (implied by government policy).
- Associated and distinct investment in new technology to measure cocreated value versus maintaining a dependence on pre-existing instruments which emphasise instrumental value and seem bureaucracy-lite.

Scotland's governance systems will not be immune to this.10

It's time to revisit what CADHE *is for* (and the associated debate about the social contract CADHE has with the communities in which it is located) before this gets lost in an economic recovery narrative.

The creation of a toolkit for reflecting on the impact and value of CADHE as related to both students and graduates was to encourage disciplinary educators to enter formally into the debate regarding value at a programme level before COVID-19 hit. Arguably, now there is also an opportunity to ask the bigger question of what CADHE (as a locus of teaching, a disciplinary habitation, and a part of a cultural field) *is for* socially, culturally, spiritually, politically and economically and establish value assessment from the answers to this question.

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10 Of particular note are the measures and indicators of success outlined on p 88 of the SFC Coherence and Sustainability Review: A review of Scotland's Colleges and Universities Phase One Report: Insights to Develop Further:
In this, there is the possibility to address:

- The existential tensions that exist across the CADHE disciplines as internationally connected entities which evolve in the face of innovation. These tensions affect what and how creative arts and design higher education proceeds and they are tensions that have only been exacerbated by COVID impacts.¹¹

- Art and design in a changing, complex, multi-leveled social contract which embodies not just the importance of domestic economic value but also issues of local and global broader cultural confidence, social justice and wellbeing requirements of adaptive resilience (O'Brien et al, 2009; Mulgan et al, 2019; Latour, 2019).

- What polycentricity means for CADHE in a world where increasing access to digitally facilitated interactions will break down some silos and establish others.

In the face of inequality and climate regime change, measuring the value of CADHE appropriately is just as mission critical as it was before the pandemic.

What happens with and to CAD students as demonstrated through regionalisable econometrics, cultural vitality algorithms, social return on investment mechanisms, bohemian indices, attitudinal or sentiment analyses, and most qualitative forms of data gathering is important. Particular forms of cultural growth that might be identified as high value and creating more value are going to be important in social recovery, especially as this relates to poverty reduction and resolving tenacious equalities' injustices.

But the value sought from CADHE needs to be guarded against continued environmentally unsustainable growth, blindness regarding global poverty and climate regime changes, and value extraction which ultimately denudes the resources that enable cultural vitality as a social good (O'Brien et al, 2009; McAndrew, O'Brien & Taylor, 2019; Mulgan, 2020; Latour, 2018; Mazzucato, 2019). The Scottish government recognised this at a policy level pre-Covid across the multiple arenas which effect a push and pull on CADHE.¹² It is important that such a recognition doesn't get lost now.

¹¹ Discussed explicitly at: CHEAD Conference March 2021 ‘Reorienting the Art School’
https://chead.ac.uk/reorienting-the-art-school-panel-discussion

¹² This was made explicit during a symposia series designed to engage leaders in building Scotland's creative economy ‘Discussion at Understanding Scotland's Creative Economy Landscape: Places of Creative Production’, Glasgow School of Art in association with the Scottish Funding Council and Creative Scotland:
https://placesofcreativeproduction.home.blog/pocp-glasgow-2018
Conclusions

Higher education creative arts programmes are not just pipelines into professions at multiple geographic levels (Scotland, UK, and international), they also act as place makers and support cultural and creative arts enterprises within the pluralism (regional and national) of Scotland’s socio-cultural, political, and economic commonweal. Their impact as actors in the cultural vitality of place needs to be addressed in conversations about value.

With this in mind, the cluster’s conclusions are thus as follows: firstly, the conversation about the value of CADHE in the light of changes to higher education governance structures (and the policies they embody) has yet to adequately identify and address the value and values of the creative arts and design learning journey and its role within the cultural vitality of Scotland; secondly, if the value of CADHE is to be measured there exist multiple circulating impact indicators attached to a range of policy arenas (beyond simple economics) which could be deployed to demonstrate value, especially if value is understood in relationship to cultural vitality as much as economic outcome. Each one, nevertheless, engenders dilemmas and paradoxes for how we design disciplinary enhancement as well as CADHE regulation. Our current mechanisms of value measurement in this context are insufficient. Thirdly, algorithmic innovation applied to establishing the value of graduates from CADHE means that leaders in CADHE face a substantial shift in their roles and responsibilities related to articulating the impact of educational provision, for which they are currently ill-prepared. Covid pandemic recovery is likely to make these issues more rather than less acute. Finally, whilst the emphasis of this work was one devolved nation, the issues represented are likely to be replicated with different national flavours across the UK and beyond.
References


