



# PRISM

Casting New Light on Learning, Theory and Practice

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# PRISM

Casting New Light on Learning, Theory and Practice

**VOLUME 1 | ISSUE 2 | WINTER 2017**

## **VALUES IN EDUCATION**

**Guest Edited by Dr. David Allan**

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## EDITORIAL: Devaluing the Individual

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### DAVID ALLAN

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## 1. Devaluing the Individual

### 1.1 Introduction

Welcome to this special issue of Prism on *Values in Education*. The theme of values is greatly significant for the world of education but there are many facets that can be unpicked. The theme for this issue, then, is intentionally broad and encourages diverse perspectives on values, as well as various explorations of the wider interpretations of the base word 'value.' Indeed, this editorial positions values from the perspectives of those marginalised by their educational experiences, thus focussing on the devaluing of the individual. I shall give an overview of what is contained in this issue a little later but for now I would like to discuss the societal implications of having a system that discards the values of those who do not adhere to the established norms.

### 1.2 Disaffection with learning

Compulsory education in England has long been identified as problematic for some young people. For instance, Duncan (2013, p. 29) suggests that schools can be 'particularly oppressive institutions that create the conditions that make their children the unhappiest amongst the industrialized nations, generating precisely the disaffection with schooling that they then criticize and punish.' Indeed, the literature is replete with studies on disengagement, disaffection and other concepts and behaviours that represent resistance to the apparent structural impositions of our education system in England (Allan and Duckworth,

2018; Allan, 2015; Hall and Raffo, 2004; Kinder et al., 1999; Lumby, 2012). Whilst compulsory schooling provides much fulfilment for the majority (Keys, 2006), the corollary of such a system is the creation of cultural norms, whereupon those who *fail* to conform or fit in are castigated and alienated, and often allocated to alternative learning programmes to address their *recalcitrance* as schools adopt a default position of righteousness (Harber, 2008).

Some control is arguably necessary, of course, as schools help to establish parameters that replicate society, which is full of restrictions (although the inverse is also often evident where socio-political circumstances dictate the behaviours of individuals in school), but this becomes problematic when it impinges on individual values. A lack of fulfilment with the education system can lead to disaffection and it is usually at the point in which this becomes active disengagement that it is identified. Disaffection may be ‘characterised as a rejection of the values and cultures of dominant institutions’ (Ferguson, 2004, p. 292); however, this is only half the picture because those ‘dominant institutions’ also often reject the values of individuals who do not exhibit an allegiance to their establishment and its rules. As such, schools are representative of the larger problem, wherein education is heavily led through a top-down implementation process. In this way, it is government policy that mostly informs, or at least significantly influences, practice. Thus, whilst there is an element of ‘resistance’ or ‘autonomy’ evident at the grassroots level, policy appeasement is purported to be a necessity.

The national curriculum is designed to inform schools of the values that are deemed necessary for transmission. However, such a system can favour certain individuals – for example, many middle-class students – as its aim is often the reproduction of human constructs such as capital and class. As such, ‘agents adjust their expectations with regard to the capital they are likely to attain in terms of the ‘practical’ limitations imposed upon them by their place in the field’ (Webb, Schirato and Danaher, 2014, p. 23). For many, this process of enculturation results in casualties – those who become marginalised by both society and the education system (Allan, 2016) – and attempts to restore this power differential can be seen in students’ so-called *recalcitrance*, subsequently resulting in teachers aiming to restore conformity by *getting the buggers to behave* (to borrow a phrase from Sue Cowley).

### 1.3 What price value?

According to Parks and Guay (2009, p. 676), 'values are ordered by importance, such that one will tend to act according to the more important value when two values are in conflict'. As such, if a student values peer relationships more than educational accomplishments then they will be inclined to make those relationships work, even if this is to the detriment of their education. Peer relationships are prioritised because they present opportunities for community networking and, subsequently, the acquisition of social capital. The perceived failure of the school can then generate dissatisfaction and frustration, resulting in disaffection with learning, where *learning*, *education*, and *schooling* are all conceptualised interchangeably.

Some students who become disaffected with learning will regain their control through disengaging from the system, but this is often temporary and usually leads to poor outcomes, such as a lack of education and progression opportunities and probable NEET (not in education, employment or training) status, where disempowerment returns:

Default societal position 1, Non-conforming and disruptive kid 0.

What is valued is an education system that enables academic progression – GCSE, A level, degree and so on – and the reproduction of sociocultural values that carry capital, whereupon the symbolic domination of those students who exhibit the inability to compete results in the reproduction of their oppression (Bourdieu and Passerson, 2000).

### 1.4 Setting the bar

As a result of such reproduction, the linear educational route identified above has become the 'gold standard' and other forms of learning, such as vocational or technical, have become victim to elitist thinking and the reaffirmation of what constitutes cultural capital. Thus, whilst attempts to establish parity of esteem between academic and vocational learning have been myriad, progress remains incredibly slow. Indeed, many students who become disaffected are often shoehorned onto vocational learning programmes and whilst there are many success stories (Allan, 2014; Hall and Raffo, 2004), it is perhaps the original intention, as Deuchar and Graham (2012, pp. 4-5) point out, that needs to be challenged:

Popular discourse about these students is that they come from families that do not value education and who do not know how to discipline their children, that these students are too dangerous to have in schools and, through their disruption of others and disrespect for authority, have effectively denied themselves the right to an education.

Such individuals are often perceived to be non-academic or, more directly, of lesser intelligence. Phrases such as, 'He's good with his hands' perpetuate this perception (along with ridiculous notions such as *kinaesthetic learning style*) and many are reassured with the resultant misconception that these are 'naughty' kids because they cannot cope with the heavy academic demands.

In reality, the reasons for disaffection and disengagement are many and situations are highly detailed because individuals are not robots but lead complex (and often complicated) lives. Some students have difficulty conforming due to the disparity between what they value and the compulsory expectations of school, resulting in multiple values that are misaligned. Consequently, the school is perceived to be in conflict with the students' social experiences. This is one reason why some off-site learning environments are rated so highly. For many, such environments that align with students' values, and connect with their milieu, can impact positively on disaffection (Allan and Duckworth 2018). Thus, values are an important consideration for the inclusion of students whose cultural capital differs to that of the education system, such as the favouring of the social capital available in the community. Indeed, it is not unusual for students to experience cognitive dissonance, where they are given the message that education will lead to financial success and societal status yet prestige in the community from 'non-conforming friends' holds greater appeal. In this way, there is often a trade-off of cultural capital for social capital. To add to this, a major component of this dissonance is that the very professionals promoting this message are often highly devalued by society and metaphorically crushed in their profession.

## 1.5 Conclusion

In sum, I would reject the suggestion that schools *never* provide fun and interesting environments in which to learn, or that they *always* fail to develop independent thinkers and autonomous learners; rather, the values we see connected to the compulsory schooling system can result in tension for those whose values are not aligned with such structural practices and who resist the compulsion to adapt their values.

Although there are valid concerns with the current education system in England, on balance it needs to be noted that it does provide a valuable experience for the majority of children and young people (Keys, 2006). Many students see the merit of learning, and even embrace a system that can provide life- and career-progressing opportunities. Indeed, as Graham et al. (2015, p. 237) inform us, even the so-called “ignorant yobs’ value education and know what it is for [and] have aspirations for a secure, productive and fulfilled life’. However, no system is infallible, so I end this argument with the words of Carlo Raffo who sums up the need to value the individual:

Schools need to be more reflective about how the wider socio-cultural lifeworlds of young people, and particularly the various networks that make up those lifeworlds, impact on the individual agency of young people. By understanding how and why informal practical knowledge, value introjections and social relations develop for young people and how these then enable levels of social capital to be enhanced, schools may be better placed to develop curricula and support systems, including careers, that really meet their needs as opposed to attempting to re-engage them in standardised mainstream provision which rarely reflects fully the socio-cultural diversity of these young people (Raffo 2003, p. 85).

## 2. In this issue

The potentially subversive effects of consumerism in higher education forms the focus for our first article, with **Craig Hammond** drawing on the work of Roland Barthes and Guy Debord to problematise current pedagogical values and strategies. **David Woof** explores some of the value-laden difficulties of designing and delivering a curriculum for design and technology. In particular, he discusses the values and attributes of this subject from the perspectives of

experienced practitioners in the field, identifying dissonance in the curricular positioning of the subject within the national curriculum. **Alison Hardy**'s article examines the potentially multiple values associated with school subjects. In this, she proposes a framework for exploring and defining the value of a school subject. The attribution of individual values is captured and analysed through the utilisation of this framework, resulting in the generation of subject beneficiaries. As a subject, design and technology is valued in terms of its financial return for society, measured through specific progression opportunities such as employment.

An interesting think piece from **Graham Hallett** discusses teachers' values and the ascribed value of teachers, where initial teacher education is seen to attempt to standardise performance yet fail in acknowledging the wider remit of individual developments and personal values. The implications for this can be seen in the perception of some students as *economic units*, whose performance outcomes become mere measurable contributions to the financial status of the country.

We also have two book reviews in this issue. The first, by **Paul Reynolds**, discusses *Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity* by Bhaskar, Danermark and Price. This book builds on Bhaskar's lectures and applies an interdisciplinary approach to health and well-being as a means of extending criticality and analysis. Our final book review sees **David Hayes** tackle *Criminology* by Case et al., a textbook aimed at students of criminology. This book guides the reader through the student experience and provides a user-friendly approach to studying in this area.

I hope that you enjoy reading this issue and that you find it inspirational for your own work and/or thinking. For those of you who feel compelled to debate with or against any of these articles, there will be opportunities in future issues of Prism for you to contribute.

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## Roland Barthes, Guy Debord and the Pedagogical Value of Creative Liberation

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#### **Abstract**

*The flexible remit of this article should operate as an invitation for educational practitioners to consider and hopefully engage with a range of democratic and malleable pedagogical tactics, and ways in which they might be adapted across academic and curricular practices within and across Higher Education. As such, the article does not present a specific and robustly complete set of pedagogical models, replete with pre-assigned instructions for an exact and replicative application. Rather, the brief tract should operate to incite and generate thoughts and ideas relating to new and alternative possibilities; and, in doing so, nudge new and insurgent ways of engaging with knowledge, the Higher Education environment, and the student experience. Through the exploration of a range of ideas and concepts, (adapted from the work of Roland Barthes and Guy Debord - specifically the Death of the Author, and the dérive and détournement), the piece argues that Higher Education academics and lecturers need to creatively confront the debilitating values and excesses of consumption – currently sweeping universities – with an insurrectionary range of radical tactics and alternative practices.*

### 1. Roland Barthes and Guy Debord: Echoes of Liberation

Whilst the philosophical works and concepts of Roland Barthes (1915-1980), and Guy Debord (1931-1994),<sup>1</sup> contain inevitable differences and divergences, they also harbour an array of affinities and similarities, supported by the fact that both theorists subscribed to

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<sup>1</sup> Guy Debord (1931-1994), was a French Marxist and intellectual provocateur who, in July 1957, became the leader of the International Situationists – an eclectic and maverick group of artists and intellectuals. From the outset, the focus of the collective was to critique and challenge the stagnation and boredom of the increasingly technological and consumer driven society.

unorthodox permutations of Marxism.<sup>2</sup> Through the refraction of their respective frameworks, they each – through different conceptual routes – suggest that a proliferation of culture-infused voices can manifest in unpredictable, liberated and politically potent ways. Their concepts and associated practices harbour powerful critiques of curricular conformity and pedagogical standardisation – promoted by the consumer ethos of the contemporary university. Their oeuvres strive to reinvigorate and promote micro experiences of political activity, through everyday practices – in the form of *tactics* – for creative empowerment.<sup>3</sup> Their techniques of subjective empowerment and knowledge proliferation contain a particular potency for practitioners who work across institutions of Higher Education. For both Barthes and Debord, cultural material (and associated knowledge) should not be categorised as an external eclecticism, a cultural ‘stuff’ of purely *outside* and completed sources. Instead, culture and culture-infused experiences should be recognised and treated as a complex residue of intra-subjective, destabilising and creative catalysts; kaleidoscopic initiations to fresh and refracted enunciations (see Barthes *Camera Lucida*, and *Mythologies*, and Debord’s *Society of the Spectacle* and his essays on the *Dérive* and *Détournement*).

Debord and the wider collective of the *International Situationists* (abbreviated throughout this article as the *Situationists*, or the *SI*), devised and developed a number of *everyday-focused* tactics, which included the disconcerting and fluid notions of the *dérive*,<sup>4</sup>

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<sup>2</sup> For an insight to how Debord challenges and adapts tenets of Marxist theory see *Society of the Spectacle*, paragraphs: 79-89, and 204-209. For a brief insight in to Barthes’ sympathies for critical Marxist activities (as opposed to dogmatically calling and labelling oneself as a Marxist), see the following excerpt taken from ‘Am I a Marxist?’: ‘M. Jean Guerin enjoins me to say whether I am a Marxist or not ... These kinds of questions are normally of interest only to McCarthyites. Others still prefer to judge by the evidence. M. Jean Guerin would be better advised to do as they do. Let him read Marx, for example. There he will discover – at least I hope he will – that you don’t become a Marxist by immersion, initiation or self-proclamation ... that Marx isn’t a religion but a method of explanation and action; that that method demands a great deal of those who claim to practice it; and that, as a result, calling oneself a Marxist is more about self-importance than simplicity’ (Barthes, 2015b: 46-48); other examples of Barthes’ critical adaptations of Marxist analysis can be found in his 1972 publication *Critical Essays* – especially the chapters ‘The Tasks of Brechtian Criticism’, and ‘Workers and Pastors’.

<sup>3</sup> The influence and collaboration of Barthesian ideas with Debordean political/liberatory tactics is well recognised and documented; for example, see Hammond 2017; Boscagli 2014; Hetherington 2007; and, Kibbey 2005. For a detailed definition and exposition of the notion of education-based strategies and pedagogical tactics, adapted from Michel de Certeau’s definitions of strategy and tactic (in *The practice of Everyday Life*), see Hammond 2017a, pp. 9-12.

<sup>4</sup> This concept (and the concept of *détournement*) is defined and explored in more detail later in the article; but, by way of an initial definition, Coverley (2010) notes that the theory and practice of the *dérive* refers to experimental behaviours which strive to invoke, ‘a technique of transient passage through varied ambiances’

and *détournement*.<sup>5</sup> These concepts operate as both theoretical abstracts and cultural practices, aimed at inciting antagonistic forms of micro-political struggle. The malleability of these concepts means that they can be productively and democratically harnessed for pedagogical innovations, to challenge and outmanoeuvre the increasingly formulaic academic practices associated with data-driven performance and proto-consumer standardisation (see Hammond, 2017a & 2017b).

In developing and implementing their practices, Debord and the SI set out to confront and challenge the subjective and lived experiences of everyday life and the extent to which these had become smothered by the oblivion of the consumer *spectacle*. Skwarek (2014) clarifies that Debord's use of the term 'spectacle' refers to the corporate branding and associated behaviours that take hold as part of the consumer society. As such, for Debord, consumption not only shapes the production, marketing and distribution of goods, it also diffuses a deeper and encompassing ethos, which permeates and damages wider human behaviours and expectations. As Debord notes, the spectacle of consumption is, 'not a mere decoration added to the real world', but becomes the very heart of society (Debord, 1970, para 9).

In *Perspectives for Conscious Alterations in Everyday Life* (1961), Debord notes that the crisis of consumption renders everyday life as a meaningless performance of routine, 'organised within the limits of a scandalous poverty' (Debord, 1961, para 11). The atomising behaviour of consumption, therefore generates a pattern of behaviour of *smooth conformity*, which influences people to accept a cooped existence in, 'a sort of reservation for good natives [to] keep modern society running without understanding it' (Debord, 1961, para 15). For Debord, subjectivities within the regime of capitalistic consumption are disempowered,

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(Coverley, 2010: 93). Adding a little clarity to this, Wark (2015) asserts that the 'dérive is the experimental mapping of a situation' (Wark, 2015: 57), one that allows *dériveurs* to follow impromptu and unpredictable discoveries; from the desire to explore and wander, new places and new experiences can emerge. Coverley (2010) also usefully notes that the notion and practice of the *dérive* has a long and varied history – one that predates the Situationists. As such, it is appropriate to note that Debord and the SI didn't originally conceive of the *dérive*, but they developed and enhanced it as a key Situationist and political strategy.

<sup>5</sup> Coverley (2010) again notes that *détournement* is a method which encounters and tackles – with a view to creatively transforming – entrenched, established and routinised cultural practices, knowledge, or artefacts. To *détourner* means to seek out 'a word, statement, image or event from its intended usage and to subvert its meaning ... *Détournement* creates new and unexpected meanings by hijacking and disrupting the original' source of published culture (Coverley, 2010, p. 95).

distracted and stranded in a political and democratic wasteland. The only way to “arouse the masses” from the standardising pulses of the system, is to shock in to conscious recognition the correlation between its values and bureaucracies, and the subsequent poverty of everyday experience in being rendered fodder for markets and profits (Sl, 1960, para 5). It is the depoliticising backdrop and stupefying grip of the spectacle of consumption that Debord frames, with a view to reclaiming and redeeming – the hijacking and somnambulistic tendencies of individual autonomy. To navigate and challenge the intellectual and political apathy generated by the consumer onslaught, it is essential to establish, ‘physical – as well as psychological – activities, to produce new concepts, new ideas, and new knowledge’ (Wark, 2015, p. 58). The Debordean tactics of the *dérive* and *détournement* (explored in more detail later in the article) thus promote a micro potency of unpredictable actions within university and pedagogical contexts, which can be developed and pitted against the psychological stupor conjured by the spectacle. To counteract the powerful routines of consumerised space, Debord promotes the practice of “inhabiting” any, and all, corporate-consumer dominated environments, with the purpose of fracturing habits of conformity, and detouring beyond strategic and structural expectations of organised compliance.

A number of similar and symbiotic themes are identified within the work of Roland Barthes; for example, his essay *The Death of the Author* (1989a), which suggests that the contemporised artifice of power and coherence illudes the transience of the author<sup>6</sup>. For Barthes, the meaning of *a text*, ‘in contemporary culture [has become] tyrannically centred on ... [the author’s] person, his history, his tastes, his passions’ (Barthes, 1989a, p. 50). Expressing somehow, ‘the voice of one and the same person, the author,’ who intercesses a seam of truth to us (Barthes, 1989a, p. 50), serves to render the assumed meaning of the text – and by implication knowledge – a static entity that can be owned, corporatised and stifled. However, the shaky notion that the practice of a singular author can somehow engineer a stasis of meaning into an array of hieroglyphic symbols, (in the form of letters and words) is akin to *faith*. For Barthes, the assemblage of a preliminary sequence of linguistic symbols and

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<sup>6</sup> I have opted to use the word 'illude' here, as it encompasses the purpose to trick or deceive (create an illusion). Maz Beerbohm in *Yet Again* (1910) usefully applies the word *illude* to the deceptive tendencies of art. He argues that one of the main purposes of art is to imitate life, or, to produce in the spectator an illusion of life. In this sense, the notion of the arresting and omnipotent author *illudes* the fluidity and dynamism of the text. (See Beerbohm, p. 238).

textual characters, do not reveal the psychic dimensions of its author, but instead, opens up a portal of chaotic associations harboured within the *reader*, or the Scriptor (Scriptors establish new rhythms and interpretations in response to the fluidity of their encounters with the text). In ceasing to release a single authoritative meaning, 'the author absents himself from [the text] at every level' (Barthes, 1989a, pp. 51-52); here, 'the author enters into his own death' (Barthes, 1989a, p. 49), and in doing so, proliferates a multi-dimensional constellation of contested meanings, 'a fabric of quotations, resulting from a thousand sources of culture' (Barthes, 1989a, pp. 52-53). The author, then, *performs* a catalytic function that agitates multilinear torrents of unpredictable reinterpretations from the refracted and secret worlds of disparate Scriptors.

Barthes's stance regarding the unwieldy proliferation of knowledge brings the institutional positioning and micro-political practices of the Higher Education lecturer into critical focus. The protocol, format and sanctioning of university knowledge, disseminated and filtered through mechanistic modes of process and scrutiny, is inevitably problematised by the ramifications of the *Death of the Author*. Contemporary university systems that scrutinise and *safeguard* quality and standardisation, generally promote – indeed require – linear models of curriculum and pedagogy. Usually, this takes the form of the *expert* practitioner didacting a prescribed and surveilled canon of knowledge, on to a select and largely inactive group of learners. Subjected to formulaic forms of assessment (dictated by restrictive institutional marking requirements of scrutiny, standards and surveillance), outcomes generally consist of perfunctory, predictable and regurgitated essays. Any scope for radical, passionate and creative endeavour is not only stifled, it is architecturally and strategically rendered redundant and obsolete.<sup>7</sup>

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<sup>7</sup> The point to be made here is not that academics and lecturers who 'lecture' somnambulistically disseminate perfunctory and formulaic knowledge, rather that the strategic pressures generated by the 'consumer-tailored university' engineer parameters of pedagogical and assessment standardisation. As Erving Goffman (1981) identifies in his essay *The Lecture*, lecturing as a mode of delivery can be creatively catalytic and dynamic. Through the lecture, information can be presented in ways that can empower the audience to consider and serendipitously engage with new knowledge. Furthermore, Tim Ingold (2007, 2011 & 2013) challenges the notion of knowledge linearity, and suggests that multiple 'lines' of proliferation should be recognised and facilitated where knowledge generation is concerned. Paul Gibbs (2017) also effectively suggests that we should re-engage with the notion of 'currere' as an open and non-linear notion of pedagogical agency, through which students facilitate their experience of knowledge-encounters with autobiographical poignancies.

In *The Rustle of Language* Barthes questions his identity as an educator – and, his associated purpose – and asks, whether he speaks and performs in the name of, ‘a function? Of a body of knowledge? Of an experience? What do I represent? A scientific capacity? An institution? A service?’ (Barthes, 1989b, p. 320). As part of his response, he remarks that anyone teaching in a formalised context must become increasingly conscious of their staged and exclusionary actions. He contends that the traditional format of teaching is unavoidably divisive and based upon a dichotomous opposition: on one side, the sole and unidirectional speech act ejected by the academic, and, on the other, the creative and unpredictable reception of a flurry of words and ideas received by the diverse and eclectic *audience*. And yet, when considered through the filter of the *Death of the Author*, the radical activity of Scripting and *writing* beyond the impact of word and text, becomes reframed as a practice that can be utilised to transgress and usurp processes of control and imposed authority. Encounters with language and *text*, and the subsequent fission of knowledge, should be akin to an ‘uninhibited person who shows his behind to the *Political Father*’ (Barthes, 1975, p. 53, [emphasis in the original]). Within the fractured interiority of a Scriptor, the minutiae of subjective experiences contain kernels of creative tangents, latent and perpendicular directions of thought that, in turn, can shift beyond the cloistered spheres of academic control. Through creative provocations, personal and personalised driftings can emerge through, ‘language’s illusions, seductions, and intimidations (...)’ (Barthes, 1975, p. 18). As such, teaching as a proliferation of communication, and catalytic instability of learner encounters, harbours a political potential that can challenge, reveal and confront the terminal and privileged knowledge that underpins and upholds the authority of the university.

## 2. The Rustle of Language: Expressive Autonomy

Technical, colourless and mundane academic writing serves to suck the life, desire and pleasure out of thinking; ransacked, learners are stripped of the possibility of engaging with discovery and hopeful writing. *Inducted* and disciplined into the constraints of technical writing, learners develop mechanical habits. In place of freedom, a network of rules and forms hem the pliability of discourse; legalistic performances of writing appear in lieu of the undulating indefiniteness of language. The control and regulation associated with the expectations of undergraduate and postgraduate writing produces a secondary effect: that of

psychological order. Once the empire of rules, style and content has been drilled and habituated, essayistic and other technical offerings are rendered, at best, lifeless doppelgangers of pseudo-knowledge.

However, should Barthesian inspired approaches to *Expressive* writing be afforded curricular and pedagogical space, positive and liberated practices of expression can develop, '(...) from the Scriptor's phantasmatism, and not from a uniform and reductive law ... as if the Scriptor were obeying not academic law but a mysterious commandment that comes to him from his own history – perhaps even from his own body?' (Barthes, 1989c, pp. 44-45). Beyond the rigidity of the formal lecture-based text delivered by the academic, 'a thousand adventures happen' (Barthes, 1989b, p. 323); as the educator, (the *author* of the lecture) finishes speaking, the confines of any prescheduled narrative disintegrates and falls away to reveal a *vertigo* of knowledge. Such an approach belies a powerful challenge to the otherwise deferential and subservient silence of uncritical conformity; it serves as a reminder that the rupture between, '(...) the pleasure of the text and the institutions of the text' (Barthes, 1975, p. 60), is far from insurmountable.

Amidst the various academic challenges posed by the Barthesian tactics, is the need for practitioners to begin to devise alternative approaches to curriculum design and formulaic assessments; unfamiliar permutations which can promote and, importantly, accommodate the serendipity and creativity associated with liberated learner writings. Any such practices should also afford learners the freedom and non-prescribed space to Scribe unpredictable and bespoke offerings; *Expressionistic* explorations, which inevitably contain the risk of including "ignorances" and "blunders". For Barthes, any such meanders or mistakes should not be damned and failed, 'as aberrations or debilities' (Barthes, 1989c, p. 45); rather, they should be recognised and accommodated as gestative spaces and potent cells of proto-creativity. Incorporating the Barthesian notion of *skidding* – or, 'reinterpretive skids' – *Expressionistic* approaches to writing can operate to tackle and reverse the traditional pedagogical replication of pupilistic prototypes, learner-automata created in the lecturer's *own image*. In this sense, for Barthes, it is essential to remember that, as a teacher:

I speak, endlessly for and before someone who does not speak. I am the one who says I (the detours of one or we, of the impersonal sentence, are insignificant), I

am the one who, under the cover of an exposition (of something known), proposes a discourse, without ever knowing how it is received. (Barthes, 1989b, p. 312)

To recognise and accommodate the expressive and meandering connections emergent from within the Scripted worlds of liberated learners, practitioners must start to creatively and tactically manoeuvre pedagogical alterations within the stultifying rules of the academic monolith.<sup>8</sup> Democratic practices and tactics should be experimented with, to ensure that serendipitous and subjective voices are afforded space to birth and grow towards meaningful explication. In recognising and accommodating connections to what might be referred to in Barthesian terms, as ‘experiments in rustling’ (Barthes, 1989d, p. 78), emergent writings from liberated Scriptors can gradually reorient towards an experience and presence of *freedom* (Barthes, 1970, p. 16). Navigating from ‘the threat of a secret’ (Barthes, 1970, p. 20), the opening-up of dynamic spaces and writing opportunities, means that *Scriptors* can set out to grasp for the intrigue of undisclosed *rustles*, which reverberate beyond the *formulaic* and staid routine of technico-legal academic language.

With this, the opportunities and openness associated with Barthesian liberatory tactics can operate as micro-political and democratic catalysts. In a curricular (and “delivery”) sense, rather than presenting Barthes’s work and ideas as a finite and finished archive of completed texts, to be technically probed and dissected as part of an academic endgame, (comparing his conceptual strengths and limitations against the omissions, and obliquities of other theorists), alternative, radical and empowered experiences of *expressive* potency are ripe for discovery. As a creative and destabilising alternative, the *death of the author*, can be presented as an unspecified landscape to learners, a participatory invitation offered to Scriptors, to embark, discover, and creatively shape, knowledge and learning in new and unforeseen ways. The fluidity and instability of language harbours a radical potency, which can be actively shaped through the non-denominative writings of Scriptors. In this sense, Barthes embodies an academic and politicised reminder that the parameters of normative knowledge and

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<sup>8</sup> See the following publications for more detail on developing and implementing alternative pedagogical tactics within Higher Education contexts: Hammond, C. A. (2017a) *Hope, Utopia and Creativity in Higher Education: Pedagogical Tactics for Alternative Futures*. London: Bloomsbury; Hammond, C. A. (2017b). Machiavelli, Tactics and Utopia. In M. Daley, K. Orr, & J. Petrie (Eds.), *The Principal: Power and Professionalism in FE*. London: Trentham.

university relationships, institutionally scaffolded and sanctioned disciplined ranks of experts, can be challenged.

### 3. Debordean Meanders Towards Freedom

The micro-political implications of the Barthesian framework are sympathetic to a number of Debord's arguments in the *Society of the Spectacle*. Debord asserts that all social structures and environments risk being infected and shaped by the power and spectacle of *consumption*. As is abundantly clear, the contemporary university is no longer exempted from the expectations and excesses of consumption; the Academy is being rapidly restructured, to redefine its purpose and function into becoming a standardised and marketable *commodity*. Knabb (2006) argues that the collective reconstruction of universities along the lines of large business corporations, is serving to render them as institutions of *efficient ignorance*. Increasingly, as glossy and uncritical organisations, the financial, branding and bureaucratic purpose of the university is serving to generate a, 'mass production of uneducated students who have been rendered incapable of thinking' (Knabb, 2006, pp. 410-411). The *anarchy* associated with individual creativity and democracy is, 'taken over by the authorized organisms of power' (Vaneigem, 2004, pp. 121-122). Subjected to the spectacle and processes of comfortable familiarity, the constricted role of the *student-as-customer* is increasingly rendered as a passive witness, who, at most, engages in instructional and ceremonious façades, to rehearse their, 'ultimate role as a conservative element in the functioning of the commodity system' (Knabb, 2006, pp. 408-409). Consumer-based processes and practices of banality serve to construct, dupe, and reformulate students as production line operatives, in a 'paternalistically entrenched cultural mire of subservience and deference' (Knabb, 2006, p. 310).

The increased *businessification* of the university, means that the qualities and practices of academic freedom and knowledge critique, in pursuit of social progress and the *public good*, are necessarily abandoned. The professionalised *Public Relations* role of sculpting the university as a brand and an educational 'product' is something that becomes increasingly invested, honed and protected. The public image and identity of the university must be safeguarded, to ensure its ability to successfully compete in the higher education market. As

collateral damage the role and identity of the lecturer (as maverick, critic, innovator) is also increasingly subjected to an array of 'quality control' processes, in the form of task-specific data surveillance and target-aligned assessments. The emerging role and identity of the new university lecturer, is subsequently diluted to a technical *instructor-of-knowledge*, to routinely and uncritically fulfil the 'considerably less noble function of sheep-dog in charge of herding white-collar flocks to their respective factories and offices in accordance with the needs of the planned economy' (Knabb, 2006, p. 411). As part of the carefully crafted academic machine, the likelihood of the *instructor-of-knowledge*, being able to confront problems of criticality, freedom and democracy; to generate alternative spaces for the practices of dynamic and radical freedom; and, to take risks in the pursuit and development of alternative pedagogical models, becomes corporately problematic and increasingly unlikely.

To respond to the power and pace of such strategic and intimidating changes, the need for *Creative Tacticians* to emerge and commence experimentations with malleable pedagogical tactics is all the more necessary (Hammond, 2017c). Rather than resign ourselves to the politically allocated function of policing fledgling followers and curricular voyeurs into tranches of bordered readings and sanitised interpretations of knowledge, we need to subscribe to and embrace insurgent pedagogical tactics, aimed at eliciting spontaneous caches of fresh and critical developments. As practitioners, we must therefore set out to discover, creatively adapt, and implement new pedagogical frontiers, as '[n]o one can develop in freedom without [first] spreading freedom in the world' (Vaneigem, 2006, p. 247).

#### **4. The Debordean Dérive and Détournement**

In his instructional tract *Theory of the Dérive* (1958), Debord defines the Situationist take on this concept, and establishes it as one of the foundational principles of SI practice. As he notes, 'the *dérive* [literally: "drifting"], [is] a technique of rapid passage through varied ambiances. Dérives involve playful-constructive behaviour and an awareness of the psychogeographical effects of our environments' (Debord, 1958, para 1); as such, a *dérive* is fundamentally different to the notion of an idle journey or stroll. For Debord, in one sense, the *dérive* is associated with the physical act of purposeful *wandering*; it is about actively

transiting from psychic states of conformity (behavioural and mental habits programmed over time) to engage in the active avoidance of uncritical routine. Illustrating the elasticity of the *dérive*, Debord notes that the conscious and intentional *dérive* or *meander* can take place, ‘within a deliberately limited period of a few hours, or even fortuitously during fairly brief moments; or it may last for several days without interruption’ (Debord, 1958, para 12).<sup>9</sup> However, the purpose and application of the *dérive* is not confined to a set of instructions for ‘getting lost’ in the City, it is more fluid and trans-contextual than this. As Wark (2015) notes, the Situationist adaptation of the *dérive*, also refers to:

...“derivare” [which] means to draw off a stream, to divert a flow. Its English descendants include the word “derive” and also “river”. Its whole field of meaning is aquatic, conjuring up flows, channels, eddies, currents, and also drifting, sailing or tacking against the wind. It suggests a space and time of liquid movement, sometimes predictable but sometimes turbulent. The word *dérive* condenses a whole attitude to life (Wark, 2015, p. 22)

The Debordean *dérive* therefore refers to a shift or transition in state of mind; in this sense, it is a mechanism to challenge oneself, to resist the compulsion to conform to established and stultifying thought patterns. Debord clarifies that the *dérive* can be, ‘precisely delimited or vague, depending on whether the goal is to study a terrain or to emotionally disorient oneself’ (Debord, 1958, para 14). As a result, the diverse and eddying characteristics of the *dérive*, means that it evades rigid definition as a stable or ‘pure state’. As a tactic for creative contemplation, the *dérive* can be adapted to almost any situation, and serves to psychically and intellectually defibrillate the passive spectator into the role of subversive actioner, a potential ‘revolutionary following a political agenda’ (Coverley, 2010, p. 97).<sup>10</sup> Replacing the figure of the Baudelairean or Benjaminian *flâneur* – an observing stroller and receptor of environments – the *dériveur* is an active, purposeful and resistant

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<sup>9</sup> Debord also offers the following insight to the physical *dérive*: ‘In spite of the cessations imposed by the need for sleep, certain *dérives* of a sufficient intensity have been sustained for three or four days, or even longer. It is true that in the case of a series of *dérives* over a rather long period of time it is almost impossible to determine precisely when the state of mind peculiar to one *dérive* gives way to that of another’ (Debord, 1958, para 12).

<sup>10</sup> Debord asks, in relation to this point, “What is private life deprived of?” Quite simply of life itself, which is cruelly absent. People are as deprived as possible of communication and of self-realization. Deprived of the opportunity to personally make their own history’ (Debord, 1961: para 23).

rebel, a political actor who responds with creative and unpredictable resistance to being objectively positioned.

As a key Situationist challenge Debord proposes that the *dérive* and the activities of the *dériveur* be transposed and translated to all forms of human relationship and organisation. Therefore, adapting the *dérive* as a Situationist tactic into a melee of curricular spaces and pedagogical environments, means that a new architecture of relations and associations needs to emerge. To be reinhabited by the wandering and creative Scriptings of individual *dériveurs*, academic spaces need to be navigated and altered, so that the wider framing of knowledge and the pre-specified roles and activities of the lecturer and *learner* can be countered. With this, co-constructive possibilities can start to emerge to change the ways in which the parameters of curricular space can be shared, encountered and experienced. *Dériveurs* can challenge and usurp the traditional modes of navigating and encountering learning environments, creating learning spaces characterised by the potential for new connections and discoveries which remain perpetually and democratically, 'open-ended for all participants' (McDonough, 2004, pp. 261-262). The spontaneity of the *dérive* can open up new forms of learning labyrinths, build bridges between the disparate and burbling non-linear worlds of the singular imagination and the wider environment of pedagogy and the curriculum. With the wisp of a pragmatic technique, Vaneigem suggests that individual and creative meanders can be instigated through an expansive range of cultural prompts, such as music, film, and literature (Vaneigem, 2006, pp. 198-199). But rather than passively consume the contents of the cultural material, he stipulates that the fragments be extracted, manipulated and used as catalysts, to incite spontaneous and creative associations and new vibrant diversions.

As briefly highlighted earlier, the notion of *détournement* – basically, to *detour* – elaborates this notion of re-interpretive cultural practices. To restate Coverley's definition from above, to *détourner* is to seek out 'a word, statement, image or event from its intended usage and to subvert its meaning' (Coverley, 2010, p. 95). *Détournement* entails the politicised poaching of aspects, or segments of published texts and other material; the idea is to hijack the ossified piece of culture and use it to produce new and unintended meanings. There is no particular size, shape or context to be associated with the source of a *détourned* object; as Wark notes, it could, 'be a single image, a film sequence of any length, a word, a

phrase, a paragraph' (Wark, 2015, p. 40). What matters is that as a result of the refracted association, a fresh and creative direction is unpredictably fathomed.

The SI tract *Détournement as Negation and Prelude* (SI, 1959) identifies two related aspects to the practice of *détournement*; initially, the object being *détourned* must be stripped of its false and reified ownership, in order to be perceived as just another fluid and contributory building block of culture. Secondly once stripped of its false value, it should influence or become part of a 'brand new ensemble', a new and creative expression of a fresh and formative artefact of cultural work (SI, 1959, para 1). The decomposition of the source of the original artefact, (with its associated cultural past) is rendered unimportant, as a "reinvested" expression emerges from the creative *detour* to produce, 'a negation of the value of the previous organization of expression. It arises and grows increasingly stronger in the decomposition of the original' (SI, 1959, para 3).

Détourning a piece of writing or other segment of pre-existing cultural product is therefore the 'opposite of quotation' (Wark, 2015, p. 40). Traditionally, the rigid and authoritative process of quotation entails the insertion of a fenced piece of past information into a newly emerging 'here-and-now'. However, it is executed within the strategic confines of an institutional setting in a specific and legislated way. Quotation maintains the legal identity and separation of the existing work, retaining its security and identification as a privately owned and corporate artefact. In comparison, to *détourner* is to resist authorial expectations; again, as with the *dérive*, to engage in an activity of *détournement* is to adopt a participative and subversive stance, to challenge the incorporated standards of ownership and control. Through reinterpretation, *détournement* liquefies the false truth and artificial petrification of a cultural product, and untethers the guy-ropes of authoritarian stagnancy, so that the legalistic hold over the work is weakened. Ultimately, *détournement* embodies a 'challenge to private property, it attacks the kind of fetishism that reifies cultural products of collective human heritage and endeavour' (Wark, 2015: p. 40). As a form of *expressive* subversion, *détournement* is targeted at hijacking existing knowledge, and disrupting the consumer world of packaged and privatised order.<sup>11</sup>

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<sup>11</sup> It is interesting that similarities can be identified here between Barthes *Death of the Author*, and his notion of the *expressive* 'rustles' of language, and, the Debordean liberation of creative and alternative voices.

## 5. Pedagogical Tactics for Future Possibility

The alternative pedagogical possibilities posed through the tactical latency of the Barthesian *Death of the Author* and the expressive notion of liberated writing, in conjunction with the Debordean influenced *dérive* and *détournement*, hopefully provides practitioners with malleable options to consider creatively tackling the practices and pressures dictated by edu-business and the consumer environment. Rather than accepting and obeying the imposition of such expectations as a *categorical imperative*, pedagogical practices could be opened up to the principles of creative and expressive wandering. To pursue pedagogical co-constructions and micro moments of creative discovery, practitioners and students could start to engage in the challenge of developing tactics for alternative and transformatory practice.<sup>12</sup>

To counter the pressure to conform to the insipid role and values of business, *all* can start to resist the emerging practices of a system that is based upon the routine fulfilment of commodified and standardised tasks and outcomes. Invoking the principles of the *dérive* and *détournement*, pedagogical practices could emerge that begin to challenge, through experiential discovery, the practices of rote, lifeless and regurgitative learning. Such tactics are not about creating a formulaic set of instructions and measurable objectives, nor are they about implementing a Situationist pedagogy. As Debord notes in *One More Try If You Want to Be Situationists*, 'there is no "situationism" as *doctrine*', as such, we should resist the habit of exhaustively predefining knowledge, practice and outcome, prior to any explorative experimentation' (Debord, 2004c, p. 49). Rather, negating pre-specified formulas and institutional narratives based on grades and final awards, a Situationist-esque experimental pedagogy, can lead towards practices and developments that are as yet to be defined. The potential for pedagogical adaptations of these principles and tactics, means that conversations, narratives, learning-practices and expectations within and across university contexts, can start to feature as part of academic discourse and so resist the poleaxing mental consequences of the consumer university.

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<sup>12</sup> For more detail on the possible logistics and techniques, and alternative modes of student work, associated with - and produced using - these ideas, see Hammond, 2017a.

The *Death of the Author*, Barthesian Scriptor-writing, the *dérive* and *détournement*, are therefore openly and freely gifted as flexible pedagogical alternatives, which can be reinterpreted in any number of different ways. Facilitating creative permutations and opportunities for discovery, untethered renovations of personal voices, moments and situations, and the provocation of wonder and astonishment, can come to the fore of explorative learning experiences. The array of concepts and tactics from Barthes and Debord form an initial basis for a political revival of pedagogical practice. Fortunately, it is still possible – just – for fresh academic and democratic opportunities to unfold, where learners can be freed to collectively embark on adventures, divine and rearticulate refracted pasts, and begin to posit them as unspent possibilities for alternative future scenarios. The Barthesian and Debordean tactics can be used to construct learning opportunities that can, ‘rectify the past, to change the psychogeography of our surroundings, [and] hew our unfulfilled dreams and wishes out of the veinstone that imprisons them, to let individual passions find harmonious collective expression’ (Vaneigem, 2004, p. 234). The insights presented by Barthes, Debord and the Situationists could become tactical vehicles through which step-change and experiential revolutions of everyday life emerge. As flexible mechanisms for alternative forms of curricular engagement, they can be malleably implemented and subjectively received, in ways that recognise and enable fractured searches for latent nubs of expressive hope. Through such open and flexible spaces collaborators may set out to *détourner* conceptual fragments, and through their own shards of possibility, start to re-inhabit the flexible parameters of discovery and learning encounters. Equipped with these tactics, pro-dynamic practitioners and learner-collaborators might start to challenge and depart from the staid, pre-specified and fatalistic consumer infected present, and in so doing start to conceive of practices and possibilities that strive for new and alternative futures.

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# Defining Design and Technology in an Age of Uncertainty: The View of the Expert Practitioner

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### **Abstract**

*Long standing debate surrounds the position that Design and Technology holds in the English and Welsh national curriculum. Some commentators espouse alignment with Science, Technology, Engineering and Mathematics (STEM) as its natural home, whilst others argue that this stifles creativity and takes no account of the 'designerly' nature they consider to be a central tenet of the subject. Against this backdrop, the subject has undergone changes in both prescribed subject knowledge content and examination and assessment arrangements by which pupil progress and attainment are measured. Set against this background, the work presented here summarises a Delphi study which sought to canvass established and experienced Design and Technology teachers about how they perceive the attributes, values and unique features of the subject. The results are analysed to give a view of the subject from within the classroom. Analysis reveals that participants in the study consider the 'uniqueness' of the subject to prevail over the values and attributes they collectively define it by. The study moves on to discuss the findings in relation to the values and direction which underpin the policy documentation that drives and shapes the subject from a national perspective. Finally, the work concludes by highlighting several important areas worthy of further research which have emerged and could be seen as contributory to understanding the nature and essence of Design and Technology.*

## **1. Introduction and Rationale**

### **1.1 Introduction**

Design and Technology is a relatively new academic discipline, its emergence stemming back to the first iteration of the national curriculum (Department for Children Schools and Families (DCSF), 1989). Not only did this review change the subject content studied in schools,

it also saw the introduction of the General Certificate of Secondary Education series of examinations as the final school leaving qualification in place of Ordinary Level (O-Level) and Certificate of Secondary Education (CSE) qualifications. As a curriculum subject, Design and Technology is unique in that it is an education construct which does not exist outside of formal education (Bell, Wooff, McLain, & Morrison-Love, 2017), nor did it exist prior to this curriculum revision.

The separate strands brought together to form Design and Technology have their foundations in well-established subjects stretching back to the turn of the 20th century and it is acknowledged that they emerged from the recognised subject of "*Handicraft*" (Atkinson, 1990). However, these strands have themselves undergone identity drift over the decades since they were initially established, with Woodwork and Metalwork recently combining to form '*Resistant Materials*', Engineering Design and Technical Drawing coming together to form '*Graphic Products*' and even cookery (or cooking) metamorphosing via home economics into '*Food Technology*' and arguably into the vocational offshoot of '*Catering and Hospitality*'. These subjects were initially combined, along with a subject typically aligned with art and design, sewing, or needlework, which itself became '*Textiles Technology*'. Every one of these falls under the umbrella of 'Design and Technology' due to exhibiting an element of design, or 'designerly' thinking.

Originally designated as a compulsory subject at the point of its inception Design and Technology lost this protected status in a later curriculum revision which saw it become non-compulsory beyond the end of Key Stage 3 (KS3) for all 11-14 year olds (Miller & McGimpsey, 2011). Subsequently it has seen a continual decline in student numbers (Turner, 2017). More recently it has been omitted from the main school performance measure, the English Baccalaureate although it can be used in another measure designed to analyse individual pupil progress over the course of their secondary education (Department for Education, 2017).

The impacts of policy changes on the identity and status of Design and Technology cannot be underestimated. Initially it appeared to be a heavily over-assessed subject with multiple combinations of attainment targets and programmes of study (DCSF, 1989). These have changed, as has the prescriptive pedagogy found in earlier curriculum revisions, to leave a

single attainment target for KS3 Design and Technology (DfE, 2013). Yet despite these changes in assessment, the actual content of the Design and Technology curriculum has evolved without fully considering the wider views across industry and commerce of what the subject should be (Design and Technology Association (DATA), 2011).

Debate from within the subject itself often focuses on elements of core identity including its place within STEM (Bell, 2012, 2016; Williams, 2011), its vocational nature (Miller & McGimpsey, 2011), its academic worth (Morrison, 2013), its role in creativity (Barlex, 2002; McLellan & Nicholl, 2013) and its contribution to problem solving (Hennessy & Murphy, 1999). Irrespective of the lens adopted, this lack of cohesion gives rise to ongoing battle with subject professionals to justify its curricular existence (Barlex, 2007; Owen-Jackson, 2013). This in turn gives rise to the subject's current instability. A desire to investigate this instability and the variance of opinion which underpins it provides the rationale for this study. Through engagement with stakeholders it seeks to ask: "What actually *is* Design and Technology?"

In the course of engaging in this study, it is anticipated that participants will further develop their own personal epistemology (Hofer, 2000) in relation to Design and Technology, even if they are not cognisant of doing so. In drawing on the earlier work of King and Kitchener (1994), Hofer suggests that the way an individual views knowledge changes with time and experience '*moving from a fixed to a more fluid view*' (2000, p. 380). It is this fluidity which offers the mechanism by which participants can challenge and develop their personal epistemology. This presupposes that their existing epistemological beliefs are continually evolving rather than subscribing to a dualistic belief surrounding the creation of knowledge about a subject.

As this is individual to each person it is logical to anticipate that each participant in the study will be at a different point on the continuum between a fixed and a fluid view about the nature of Design and Technology. In the investigation of this difference of opinion it is anticipated that some commonality will prevail, leading to a consensus relating to the attributes and values of the subject to those wishing to study it.

In accepting this variance in epistemological belief, it is necessary to also consider the impact of each individual's personal ontology. The ongoing debate into the identity of the

subject will have an impact on participants in this study. This, along with the value their own training and background has placed on the subject, will lead them to consider what Design and Technology is to each of them. Although the purpose of this study is not to challenge the beliefs of individual participants, it is likely that the reflective nature of their engagement will lead participants to question what they know about the subject itself.

Design and Technology struggles to maintain its existence (DATA, 2011). The closure and diversification of routes into teaching Design and Technology do little to reinforce its standing as an '*academic subject*' (Miller & McGimpsey, 2011). This uncertainty is further compounded by an ongoing internal struggle within the subject itself as many stakeholders debate, disagree and theorise about what the subject actually *is* from their own perspective (Gilbert, Boulter, & Elmer, 2000; Hardy, 2015, 2016a; Middleton, 2005; Miller & McGimpsey, 2011). In turn, this leads to differences in belief over the direction the subject should take to sustain its future.

It is clear that there are different identifiable stakeholders who, from their own unique perspective, offer a valid opinion about the value and worth of Design and Technology. After considering the differences between stakeholders, in order to provide depth and rigour and derive a consensus of what is the essence of Design and Technology, it was decided to undertake an initial investigation with a research cohort comprising of experienced Design and Technology teachers. The rationale for selecting participants from the group of stakeholders comes from considering the literature around previous studies into the subject, and it is clear that there is a gap in considering the voice of experienced teachers. This is not to say that other stakeholder groups would be unable to contribute to the debate, however they would do so from a different perspective.

So, with this in mind, the study set out to answer the question: *From the perspective of an experienced classroom practitioner; what are the principles which define Design and Technology?* Further, the answers to three Sub-Questions (SQ) were also sought:

1. What are the attributes that Design and Technology offers to pupils who study it in secondary education?
2. What values does Design and Technology instil in students who study it?

3. What are the unique features that Design and Technology offers to the curriculum that other subjects do not?

## 1.2 Research Design

In determining a suitable approach to the research design there were a number of factors which needed to be considered (van den Akker, Gravemeijer, McKenney, & Nieveen, 2006). This reflects that the usual approach taken in the determination of a suitable methodology is to consider a range of theoretical options which could be used to answer the initial research question (Cohen, Manion, & Morrison, 2013).

With this in mind, a range of methods could have been adopted to determine a consensus from a group of individuals. These include the Delphi Technique (Linstone & Turoff, 1975), Q Methodology (Müller & Kals, 2004), nominal group technique (Sample, 1984) or use of a *consensus development program* as developed by the United States Department of Health & Human Services (1977). Two of these methodological approaches seek to use statistical methods and/or techniques in the ordering of qualitative responses gathered from research participants, namely Delphi Methodology and Q Methodology. Each allows the determination of a rank ordering of statements, or criteria, which emerge from the study. This was seen as a highly desirable outcome, as it would enable exacting comparisons to be made in the future as the subject further evolves with policy and curriculum change.

Studies using Delphi Methodology and Q Methodology can be undertaken from afar and do not require the physical presence of participants in the same location. This was seen as being highly desirable as it allowed the best research cohort possible to be drawn together, irrespective of locality, and in so doing it sought to find the best possible field of suitable participants.

## 1.3 Delphi Technique

Assigning a defined theoretical framework to the Delphi Technique is something which has seemingly eluded those who have utilised it in the past. Indeed, this proliferates in the work of those who have sought to critique and review its use from a conceptual stance, rather than that of researcher's actively employing it in the course of their own study (Hasson,

Keeney, & McKenna, 2000; Hsu & Sandford, 2007; McKenna, 1994; Powell, 2003; Rowe & Wright, 1999; Williams & Webb, 1994). Rather, it is more fitting to consider that the Delphi technique is efficient in employing its own underpinning theoretical framework which aligns with the aims of this study in the pursuit of its determination of a consensus of opinion of a defined group. In doing so, the method and methodological approach are defined by the application of the technique itself without need for recourse to additional theoretical frameworks.

It is acknowledged that there are variants within the technique and these have developed over the years since its first inception. Van Zolingen and Klaassen (2003) present a detailed journey of the evolution of identified variant models. The noticeable feature common to these variants seems to be their truncation of the process as a means to expedite the completion of the study. However, the structure which is used here is considered the '*Classical Delphi Technique*', which they acknowledge as offering the most rigour and affords the most accuracy in determining findings.

Overall, the technique seeks to draw opinion from experts and produce an outcome which is agreeable to all. As such it must start from an accepted stance that, for the participants, multiple constructed realities exist (Pring, 2000). To commence the study with any other assertion would render the technique unusable as there would be no need to seek a consensus, and no variance in underlying opinion. It is also recognised that the derivation of a fixed definition of 'what a subject is' has its own limitations.

Initially the process involves the generation of a list of factors for consideration and this is shared with all participants. This could lead to participants being swayed by suggestions which they did not initially conceive of themselves. Also, the emergence of a definition in response to the original research question can only really be considered to be valid at a snapshot in time. As discussed previously, the notion that every participant in the study situates their personal epistemology on a continuum stretching from rigidity (dualistic) to fluidity (non-dualistic) implies that the way they consider the formation of their knowledge will change over time.

One of the original concepts emerging from early Delphi technique work was to derive a method seeking a consensus amongst an identified cohort whilst allowing the researcher to maintain a degree of neutrality (Dalkey, 1967). In doing so it is an assertion that they are positioned in such a way as to be regarded as an “*uninvolved observer*” (Robson, 1993), where their role is to facilitate new knowledge creation without influencing the process.

In his work, investigating bias and neutrality in the Delphi technique, Hallowell (2009) highlights several challenges to this delineated notion of research as being devoid of all bias and knowledge creation taking place in a domain isolated and uninfluenced by the researcher. Drawing on a concept which presupposes that any researcher, or participant, has some vested interest in the work they are undertaking, he surmises: ‘*Bias may occur when one subconsciously uses cognitive shortcuts to reach erroneous conclusions*’ (p. 1495). Clearly this is undesirable in all research studies and more problematic to address than overt bias.

Norris (1997) describes an ideal situation for conducting research as one without undue influence deriving from any form of ‘*researcher bias*’. In seeking to achieve this, research using the Delphi technique has been designed to minimise all forms of bias on the part of the researcher and the participants. But being cognisant of the work of Hallowell (2009) it is recognised that the eradication of all forms of unconscious bias is somewhat more problematic to address throughout the process. Consequently, this should be considered when undertaking any Delphi study to ensure that no undue influence is brought to bear by either the researcher or the participants themselves.

Beyond issues of neutrality and bias, the Delphi technique faces additional criticisms. Hanafin undertook a systematic literature review where she considered seven different studies all employing the Delphi technique spanning a time frame of three decades. She identifies a number of areas of concern from those studies, primarily that ‘*participant anonymity may lead to a lack of accountability*’ (Hanafin, 2004, p.11) although this is something which could be levelled at any study collating anonymous responses. Powell (2003) goes further and comments that this may lead to everyone aspiring to conform to an average opinion and as such, results represent the ‘*lowest common denominator*’ (p. 378). Other limitations highlighted by Hanafin in her work are the economic limitations of the logistics

involved in undertaking a Delphi study, the determination of the number of rounds to be used, data analysis and the inference of a consensus.

It was felt that effective research design would counter each of these issues. Although participants were unknown to each other, they were known and identifiable to the researcher. This was essential as it enabled the researcher to pursue responses from those who did not return them in a timely fashion. Consequently, it was never felt that participants felt a lack of accountability whilst engaging in the study. Due to the nature of the profession of the participants, and their willingness to engage in the study from its inception, it was not envisaged that people would migrate towards the 'lowest common denominator' and this did not appear to prevail.

Given that the researcher used his own time and resources to undertake this study, there was no financial impact attributable. The number of rounds undertaken was in alignment with the work of others who had successfully undertaken Delphi studies (Duffield, 1993) and deemed their work to have reached saturation (Barbour, 2003). Issues surrounding the validity of the consensus arrived at the end of this process are addressed in the concluding part of this study.

#### **1.4 Participant Selection**

The Delphi technique does not lend itself to interviews nor focus groups (Cohen et al., 2013). Indeed, the latter goes against one of the significant reasons for selecting to undertake a study utilising the Delphi technique; guaranteed participant anonymity. (Dalkey, Brown, & Cochran, 1969).

Witkin and Altschuld (1995) note that sample sizes attributed to Delphi Technique studies tend to be under 50 participants and frequently in the 15 – 20 range. There is debate around the optimum number of participants who can effectively contribute to such a methodological approach. Powell (2003) goes on to surmise that effective data saturation occurs at around 20 participants. Interestingly this is often regarded as the same level at which saturation of responses occurs in phenomenographic study (Marton, 1986). Beyond 20 participants, it is believed that saturation of opinion related to response occurs and variance in thought ceases

to occur, with work beyond this point being repetitive and not being contributory to the generation of new knowledge (Mason, 2012).

For these reasons it would be safe to assume that gathering further experts together beyond this apparent threshold will not yield significantly different (or better) results. Being cognisant of the need for a defined cohort size, work was undertaken to investigate the attrition rates of participants in educational research studies. Unable to find published work on this specific area, investigation of literature was widened to include fields beyond of education. In a significant piece of work in this area, Dumville, Torgerson and Hewitt (2006) identify attrition rates of between 20% - 25% in medical research studies. With this in mind, and with the initial self-nominating volunteers as participants, it was anticipated that a much lower rate of participant attrition would be applicable in this study.

To this end, a sample size of 22 participants was selected, determined by considering an optimum number of participants as 20 with the addition of 10% (n=2) to reduce the impact of participant attrition.

A study using the Delphi Technique requires participants to be '*experts*' in the field of knowledge being investigated. For the purposes of this study the term '*expert*' was determined by adherence to the following criterion:

- Professional Qualification – participants selected held Qualified Teacher Status (QTS) or an equivalent qualification recognised by the DfE should they have gained qualification overseas.
- Academic Qualification – participants were all graduates, holding an academic qualification linked to teaching and learning within the subject (at either undergraduate or postgraduate level).
- Performance Review Outcomes – participants all attested that they were successful in their most recent performance review.
- Lesson Observation Grade Data – participants were asked to demonstrate high outcomes from observed lessons; consistently being rated as good with outstanding features as a baseline measure. Ideally it was hoped that participants would be able

to demonstrate competence by being graded as outstanding across consecutive observations over a sustained period of time.

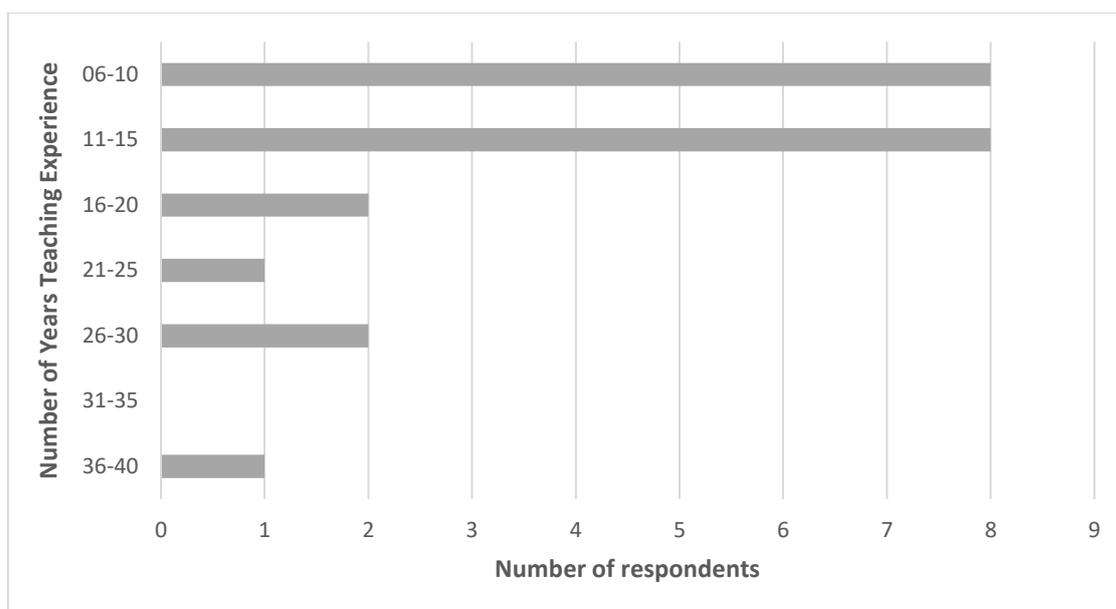
- Pupil/Class Attainment Data – participants were asked to share publicly available GCSE data about the classes they had taught who had been successful. However, it is recognised that sometimes extraneous factors outside of teacher control (like attendance, pupils who start late or move schools and so on) could have an impact on this criterion.
- Length of service in post – participants who had spent at least five years in post after qualification (this includes their Newly Qualified Teacher (NQT) year) were deemed to be experienced. This aligns with the notion that disillusioned teachers tend to drop out early in their career (Gurney-Reed, 2015; Marsh 2015a, 2015b).

Participants were selected after self-nomination following online dissemination of an opportunity to participate. Having been shortlisted using the pre-defined criteria, along with an assurance that they understood the commitments involved, and a willingness to provide ethical consent for the work (British Educational Research Association (BERA), 2011), they were invited to participate.

Initially, 102 enquiries from interested parties were received, reduced to a total of 48 who were deemed to have met the criteria enabling them to be suitable for participation. The overriding factors for exclusion from the initial sample was that respondents had less than five years teaching experience, and/or they did not provide a complete response to the data set. From this short list, a final sample of 22 people were randomly selected from those determined to be eligible by means of a number randomiser programme.

Demographically, the cohort consisted of nine male and thirteen female participants. All were qualified teachers, holding the award of QTS. Participants had undergone a mix of degree and training pathways in pursuit of the award. The majority (n=13) held a Post Graduate Certificate of Education (PGCE), a lesser number (n=8) held an undergraduate degree linked to their teacher training and a single respondent (n=1) achieved qualification by means of a Certificate in Education (Cert. Ed) programme.

The number of years teaching experience varied across the cohort, with the majority falling in the range of six and fifteen years, inclusive.



**Fig 1. Number of Years Teaching Experience.**

Having identified the cohort, the first round of the study was undertaken. Participants were asked three sub questions:

1. What are the attributes that Design and Technology offers to pupils who study it in secondary education?
2. What values does Design and Technology instil in students who study it?
3. What are the unique features that Design and Technology offers to the curriculum that other subjects do not?

In round one, participants were encouraged to provide as many responses to each statement as they could in any format. Words, phrases and sentences were returned in different quantities by each participant and a basic thematic coding (Guest, MacQueen, & Namey, 2011) was undertaken. The purpose of the coding was to draw together similar responses and remove duplication. This was necessary due to the variance in terminology used. Whilst there was some clear repetition of terms and phrases, others could be considered to more individual to a specific participant. This could be attributed to the setting in which they worked combined with their career trajectory and even influences from the examination board(s) they were familiar with. In each case, there is a specific set of vocabulary

which can be linked to these variables, the combination of which leads to different levels and variance within participant responses.

By using the Delphi methodology, it is possible to get participants to consider statements generated from round one in two different ways. The first being that they rank order these statements against each other; an attribute that mirrors work undertaken using Q Methodology (Müller & Kals, 2004). The second way of applying Delphi methodology is to get participants to assign an individual value of importance to each of the statements being considered, using a Likert scale.

The former method is more complex for larger numbers of variables, and the latter allows independent thought and a circumstance where variables can be attributed the same value. It was decided to use the latter approach and get participants to assign a value to these statements using an eight-point Likert scale. This is more expedient for participants as each statement is considered in its own right, so easily allowing for breaks in the work. It also affords participants the opportunity of being able to rank variables as being of the same significance.

In the ranking rounds of this study, an eight-point Likert scale was used with the omission of a null value. This being the case, there were an even number of values which participants were able to use to in expressing their opinion about the significance of any statement being considered. The rationale behind using an eight-point scale is founded in the work of Tsang (2012). In that study he determined that if there is a midpoint, or an arbitrary median value, on a ranking scale, then people using that ranking scale have a propensity to opt for the midpoint, or the “*not applicable*”, or the neutral ground option, prevails in cases where participants do not determine a weighting towards one end of the scale.

In this case the Likert scale used by participants only defined the end points on the continuum with descriptors of “*Essential*” (ranking highest with a value of 8) and “*Desirable*” (ranking lowest with a value of 1). This allowed participants to extrapolate their own meaning and interpretation for the inter range points on the scale. This approach was adopted in all rounds of the study and against all statements requiring ranking. In order to present a

cohesive approach to undertaking the investigative element of this study and improve clarity, it has been decided to consider each sub question individually.

## 2. Findings and Analysis

### 2.1 Findings

Presentation of the data and subsequent analysis relevant to each sub question is considered and presented before moving on to data and analysis of the next. It is important to recognise that this approach has been undertaken to aid analysis and that the sub questions were asked together in the discrete rounds previously identified.

**Sub Question 1 (SQ1):           What are the attributes that Design and Technology offers to pupils who study it in secondary education?**

This opening question elicited a range of responses, some more narrative than others, for example:

*“There are many, but I would say; creativity, practical application of knowledge and skills, designing and making”* Participant 04

In such cases individual attributes were separated from the initial narrative to allow for ranking and focused judgements to be made in the second stage (initial ranking) following the applied methodology inherent in a Delphi technique study. After sorting and grouping of similar phrases, the initial responses to this question were:

- Appeals to those who are less academically gifted
- Designing real world artefacts, for real world issues
- Develops designing skills
- Develops product analysis skills
- Empowers pupils to be autonomous
- Encourages and promotes pupil autonomy
- Helps develop criticality
- Helps pupils develop planning skills
- It is fun and engaging

- It is stimulating
- Enables pupils to engage in real world problem solving
- Manipulation and combination of materials to make a product
- Opportunity to learn from modelling and experimentation
- Opportunity to prepare for a career
- Promotes creativity
- Provides a challenge for all pupils, irrespective of ability
- Provides synergy between thinking and doing

An interesting statement which emerged is the first; *“Appeals to those who are less academically gifted”* as this shows a willingness for the cohort as a whole to identify that Design and Technology is, in their opinion, of lesser academic value than other subjects. Rather than challenging what is often considered to be a misconception that Design and Technology is less academically challenging than other subjects, (Eggleston, 1996; Barlex, 2007; Green, 2016) it can be construed as reinforcing this idea. By inference, it is also reinforcing the idea that the place of Design and Technology is not as an academic subject, but rather as a vocational subject.

Having confirmed the initial set of statements, these were circulated to the research cohort for comment and initial ranking using the eight-point scale as previously described.

Initial rankings placed the statements in the following order, the mean value attained is shown alongside each for reference (Fig. 2). Results indicate little numerical difference between statements. This can be explained when consideration is given to the method of determining the statements themselves. As they are derived from the opinions of those undertaking the research, it is not surprising that these statements are perceived as holding value by the participants. In alignment with the Delphi study approach, this list was then recirculated, alongside the statistical mean values attained. Participants were asked to reconsider, and reassess their judgements made against each of the statements in the previous round. Again, they were asked to grade these statements using the same eight-point Likert scale.

|  |      |
|--|------|
| Enables pupils to engage in real world problem solving | 7.23 |
|--|------|

|  |      |
|--|------|
| Designing real world artefacts, for real world issues        | 7.20 |
| Promotes creativity  | 7.16 |
| Opportunity to learn from modelling and experimentation      | 7.08 |
| Encourages and promotes pupil autonomy                       | 7.06 |
| Develops designing skills                                    | 7.02 |
| It is fun and engaging                                       | 6.99 |
| It is stimulating  | 6.95 |
| Helps develop criticality                                    | 6.93 |
| Develops product analysis skills                             | 6.90 |
| Manipulation and combination of materials to make a product  | 6.88 |
| Provides a challenge for all pupils, irrespective of ability | 6.85 |
| Appeals to those who are less academically gifted            | 6.81 |
| Provides synergy between thinking and doing                  | 6.77 |
| Empowers pupils to be autonomous                             | 6.72 |
| Helps pupils develop planning skills                         | 6.65 |
| Opportunity to prepare for a career                          | 6.58 |

**Fig 2. Initial Ranking of Responses to SQ1**

In considering the data for SQ1, it is apparent that there is some movement in the ranking order of descriptor statements. Not only was there a change in their relative positions, but their statistical mean has changed in every case at the second stage of ranking. It is worth highlighting that the principle purpose of the statistical mean attributed to each statement is in ranking the statement descriptors, rather than providing a definitive value for each. Previous studies which utilised a Delphi Methodological approach such as Gupta & Clarke (1996), Hasson et al. (2000), Kenney et al. (2006) observed similar occurrences.

| Position<br>Round<br>1 | Position<br>Round<br>2 | Difference | Statement Descriptor Being Considered                        | Mean<br>Round<br>1 | Mean<br>Round<br>2 | Difference |
|------------------------|------------------------|------------|--|--------------------|--------------------|------------|
| 1                      | 1                      | 0          | Enables pupils to engage in real world problem solving       | 7.23               | 7.48               | +0.25      |
| 2                      | 2                      | 0          | Designing real world artefacts, for real world issues        | 7.20               | 7.35               | +0.15      |
| 5                      | 3                      | -2         | Encourages and promotes pupil autonomy                       | 7.06               | 7.30               | +0.24      |
| 3                      | 4                      | +1         | Promotes creativity  | 7.16               | 7.10               | -0.06      |
| 6                      | 5                      | -1         | Develops designing skills                                    | 7.02               | 7.04               | +0.02      |
| 7                      | 6                      | -1         | It is fun and engaging                                       | 6.99               | 6.97               | -0.02      |
| 8                      | 7                      | -1         | It is stimulating  | 6.95               | 6.84               | -0.11      |
| 4                      | 8                      | +4         | Opportunity to learn from modelling and experimentation      | 7.08               | 6.83               | -0.25      |
| 9                      | 9                      | 0          | Helps develop criticality                                    | 6.93               | 6.80               | -0.13      |
| 10                     | 10                     | 0          | Develops product analysis skills                             | 6.90               | 6.78               | -0.12      |
| 11                     | 11                     | 0          | Manipulation and combination of materials to make a product  | 6.88               | 6.70               | -0.18      |
| 13                     | 12                     | -1         | Appeals to those who are less academically gifted            | 6.81               | 6.40               | -0.41      |
| 14                     | 13                     | -1         | Provides synergy between thinking and doing                  | 6.77               | 6.40               | -0.37      |
| 12                     | 14                     | +2         | Provides a challenge for all pupils, irrespective of ability | 6.85               | 6.38               | -0.47      |
| 15                     | 15                     | 0          | Empowers pupils to be autonomous                             | 6.72               | 6.32               | -0.40      |
| 16                     | 16                     | 0          | Helps pupils develop planning skills                         | 6.65               | 6.28               | -0.37      |
| 17                     | 17                     | 0          | Opportunity to prepare for a career                          | 6.58               | 6.20               | -0.38      |

**Fig 3. Position of Statements for SQ1 after two ranking rounds.**

The process was then repeated for a third, and final, round. Again, the outcomes were calculated and these, along with the original statements were shared with participants who were asked to provide a value judgement against each.

| Position<br>Round<br>2 | Position<br>Round<br>3 | Difference | Statement Descriptor Being Considered                        | Mean<br>Round<br>2 | Mean<br>Round<br>3 | Difference |
|------------------------|------------------------|------------|--|--------------------|--------------------|------------|
| 1                      | 1                      | 0          | Enables pupils to engage in real world problem solving       | 7.48               | 7.62               | +0.14      |
| 2                      | 2                      | 0          | Designing real world artefacts, for real world issues        | 7.35               | 7.55               | +0.20      |
| 3                      | 3                      | 0          | Encourages and promotes pupil autonomy                       | 7.30               | 7.51               | +0.21      |
| 4                      | 4                      | 0          | Promotes creativity  | 7.10               | 7.34               | +0.24      |
| 5                      | 5                      | 0          | Develops designing skills                                    | 7.04               | 7.10               | +0.06      |
| 6                      | 6                      | 0          | It is fun and engaging                                       | 6.97               | 7.01               | +0.04      |
| 7                      | 7                      | 0          | It is stimulating  | 6.84               | 7.00               | +0.16      |
| 8                      | 8                      | 0          | Opportunity to learn from modelling and experimentation      | 6.83               | 6.94               | +0.11      |
| 10                     | 9                      | -1         | Develops product analysis skills                             | 6.78               | 6.82               | +0.04      |
| 9                      | 10                     | +1         | Helps develop criticality                                    | 6.80               | 6.80               | 0.00       |
| 14                     | 11                     | -3         | Provides a challenge for all pupils, irrespective of ability | 6.38               | 6.70               | +0.32      |
| 11                     | 12                     | +1         | Manipulation and combination of materials to make a product  | 6.70               | 6.61               | -0.09      |
| 12                     | 13                     | +1         | Appeals to those who are less academically gifted            | 6.40               | 6.53               | +0.13      |
| 15                     | 14                     | -1         | Empowers pupils to be autonomous                             | 6.32               | 6.42               | +0.10      |
| 13                     | 15                     | +2         | Provides synergy between thinking and doing                  | 6.40               | 6.41               | +0.01      |
| 16                     | 16                     | 0          | Helps pupils develop planning skills                         | 6.28               | 6.35               | +0.07      |
| 17                     | 17                     | 0          | Opportunity to prepare for a career                          | 6.20               | 6.33               | +0.13      |

**Fig 4. Position of Statements for SQ1 after the third, and final, ranking round.**

Final analysis of the outcomes from SQ1 illustrate that there is still movement within the statistical mean of individual statements. Lower down the listing there is also movement in the rank order between responses. However, the results reflect that consensus has been reached on the first eight statements. So, in seeking to answer SQ1, determination of the data has resulted in the following hierarchal list of considered responses:

1. Enables pupils to engage in real world problem solving

2. Designing real world artefacts, for real world issues
3. Encourages and promotes pupil autonomy
4. Promotes creativity
5. Develops designing skills
6. It is fun and engaging
7. It is stimulating
8. Opportunity to learn from modelling and experimentation

The process was then repeated for the remaining two sub-questions; sub-question 2 (SQ2); *what values does Design and Technology instil in students who study it?* Also, for sub question 3 (SQ3); *what are the unique features that Design and Technology offers to the curriculum that other subjects do not?* The process for determining responses and reaching a consensus amongst the research sample was identical to that which has been articulated in the narrative for SQ1. As there was no deviance from the aforementioned process, for reasons of brevity, only the final data set will be presented following which there will be an analysis of the outcomes.

**Sub Question 2 (SQ2):                   What values does Design and Technology instil in students who study it?**

As in the determining of a set of consensus statements for SQ1, the first round of the study was used to elicit a set of responses from the research cohort. In a similar finding to that initially experienced in gathering the opening statements for SQ1, responses varied greatly from individual participants. These ranged from single word responses, to bullet pointed lists, to short descriptive sentences. They were typified by responses such as:

*“Design and Technology is a subject that applies knowledge and skills in the pursuit of realising a solution to a problem”* Participant 11

*“Fun, Dynamic, Active, Creative and Engaging”* Participant 17

Using this set of statements, an identical process was followed to that demonstrated in the three rounds described in determining a consensus outcome for SQ1. Consequently, for the sake of brevity, the set of statements are presented here in their final ranking order,

highlighting positional moves between their final position and their subsequent ranking position determined at the end of the second round.

| Position Round 2 | Position Round 3 | Difference | Statement Descriptor Being Considered                               | Mean Round 2 | Mean Round 3 | Difference |
|------------------|------------------|------------|---|--------------|--------------|------------|
| 1                | 1                | 0          | Trial and error in pursuit of solving a problem                     | 7.72         | 7.81         | +0.09      |
| 2                | 2                | 0          | Allows pupils to develop empathy, recognising the needs of others   | 7.68         | 7.77         | +0.09      |
| 3                | 2                | -1         | Develops appreciation for all                                       | 7.64         | 7.77         | +0.13      |
| 4                | 4                | 0          | Provides freedom for individuals, and groups to make decisions      | 7.60         | 7.71         | +0.11      |
| 5                | 5                | 0          | Effort and determination of the individual                          | 7.58         | 7.64         | +0.06      |
| 6                | 6                | 0          | Working collegiately in teams to develop a common understanding     | 7.55         | 7.60         | +0.05      |
| 7                | 7                | 0          | Encourages effort and perseverance                                  | 7.53         | 7.58         | +0.05      |
| 8                | 8                | 0          | Promotes opportunity for innovation                                 | 7.50         | 7.55         | +0.05      |
| 9                | 9                | 0          | Ability to be creative  | 7.49         | 7.51         | +0.02      |
| 11               | 10               | -1         | Quality, in both design and manufacture                             | 7.41         | 7.45         | +0.04      |
| 10               | 11               | 1          | Being organised, sequential and methodical                          | 7.45         | 7.43         | -0.02      |
| 12               | 12               | 0          | Practical ability as well as intellect and the link(s) between them | 7.36         | 7.33         | -0.03      |
| 13               | 13               | 0          | Allows for forward thinking, and conceptual design                  | 7.35         | 7.27         | -0.08      |

**Fig 5. Position of Statements for SQ2 after the third, and final, ranking round.**

Analysis of the data reveals that in the final ranking a number of respondents increased the value they placed on the top ten statements. This is evident by the rise in the statistical mean for these statements between the second and third ranking rounds.

There are also two statements ranking in equal second position. This could lead to the conclusion that saturation of responses has not yet occurred with respect to SQ2. If this assumption is accurate, then it suggests that this question may have benefited from another round of ranking by participants to ensure that a consensus in the final ranking order has definitively been reached. In alignment with the work of Witkin and Altschuld (1995),

statements of equal value can be considered as being agreed, however, the caveat which is usually applied is that there is no movement in the ranking order between rounds, not that they have achieved the same mean value.

Due to the limitations of potentially not reaching saturation (Barbour, 2001), despite following best practice guidelines (Duffield, 1993) it is felt that these two descriptors should still be included due to their relatively high placing in the ranking. Being cognisant of the potential limitation outlined previously, it can be said that the study has revealed that the participants have determined that the following statements provide a hierarchal set of values which provide an answer to SQ2 although they be a slight amount of uncertainty to the definitive positioning of two of the statements

*What values does Design and Technology instil in students who study it?*

1. Trial and error in pursuit of solving a problem
2. Allows pupils to develop empathy, recognising the needs of others \*
2. Develops appreciation for all \*
4. Provides freedom for individuals, and groups to make decisions
5. Effort and determination of the individual
6. Working collegiately in teams to develop a common understanding
7. Encourages effort and perseverance
8. Promotes opportunity for innovation
9. Ability to be creative

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\* Note: Statements of Equal Ranking

**Sub Question 3 (SQ3):           What are the unique features that Design and Technology offers to the curriculum that other subjects do not?**

The method followed in determining a consensus to SQ3 followed the same process as that adopted for SQ1 and SQ2. Following the initial collection of responses, a set of statements were drafted and circulated to participants. Three participants requested that additional statements were added to those circulated, or that existing ones were modified so as to include elements for consideration which they felt had been omitted from the statements they were asked to assess and evaluate.

Given the complexities and subjective nature of determining what is a “*unique feature*” of a given subject, it is maybe not be surprising that this was the outcome of the first stage. Indeed, maybe it is more surprising that this did not happen with the previous two sub questions due to breadth and depth of experience each participant brought with them and the diverse nature of responses initially recorded.

In analysing the responses to SQ3 it can be seen that a number of the statistical means attained by some of these statements were very similar, leading to the conclusion that many of the participants struggled to prioritise one statement over another (Fig 6). In so doing, one can further surmise that many of these statements attained scoring grades in the final round of ranking of either seven or eight from participants in the study.

| Position Round 2 | Position Round 3 | Difference | Statement Descriptor Being Considered   | Mean Round 2 | Mean Round 3 | Difference |
|------------------|------------------|------------|---|--------------|--------------|------------|
| 1                | 1                | 0          | Combining different materials together to make a product                                      | 7.81         | 7.88         | +0.07      |
| 2                | 2                | 0          | Applying theoretical knowledge and practical skill to develop products and make things better | 7.80         | 7.84         | +0.04      |
| 3                | 3                | 0          | Practical application of other subjects (Maths, Science)                                      | 7.78         | 7.83         | +0.05      |
| 4                | 4                | 0          | Designing (and making) real solutions for real problems                                       | 7.77         | 7.78         | +0.01      |
| 5                | 5                | 0          | Designing for future needs and opportunities  | 7.71         | 7.72         | +0.01      |
| 6                | 6                | 0          | Problem solving; Realise there is more than one way of arriving at a solution                 | 7.67         | 7.70         | +0.03      |
| 8                | 7                | -1         | Promotes creativity   | 7.63         | 7.63         | 0          |
| 9                | 8                | -1         | Fosters innovation  | 7.60         | 7.62         | +0.02      |
| 7                | 9                | 2          | Allows students to develop real empathy and appreciate the needs of others                    | 7.65         | 7.59         | -0.06      |

**Fig 6. Position of Statements for SQ3 after the third, and final, ranking round.**

Having concluded the three rounds of ranking, it can be seen that the following has been arrived at as a consensus for statements which appertain to SQ3:

*What are the unique features that Design and Technology offers to the curriculum that other subjects do not?*

1. Combining different materials together to make a product
2. Applying theoretical knowledge and practical skill to develop products and make things better
3. Practical application of other subjects (Maths, Science)
4. Designing (and making) real solutions for real problems
5. Designing for future needs and opportunities
6. Problem solving; Realise there is more than one way of arriving at a solution

There are striking similarities in these statements most noticeably between statements four and five which relate to the design aspect of the subject. It is noticeable that the research cohort wanted the inclusion of “*and making*” adding to the fourth statement. Interestingly in terms of the English and Welsh national curriculum this has echoes of past Attainment Targets (ATs) and the associated Programmes of Study (POS) outlined in an early version of the national curriculum orders (DfE, 1995), where designing and making were considered as separate entities. These have been subsequently been removed in a number of curriculum revisions since then including the latest variant (DfE, 2016b).

Considering this, if we consider the length of teaching service (Fig 1) of the research participants, then this particular policy may have been more influential than first anticipated. Using the data in Fig 1 it is possible to extrapolate an approximate age profile for the cohort, given that teachers can only enter training following a set period of schooling. It is likely that a significant number of participants were either pupils themselves at the time this policy was enacted, or they were educators tasked with its delivery and implementation. It is therefore likely that exposure to this disaggregation of ‘*Designing*’ and ‘*Making*’ has shaped and influenced the thinking of the participants, either consciously or subconsciously. Thus, participants associate these terms with the identity of the subject.

## **2.2 Comparative Analysis.**

Comparative analysis shows that there are some trends within the data which transcend the sub questions themselves:

|            | No. of Initial Responses | All Statements |                |       | Consensus Statements |                |       |
|------------|--------------------------|----------------|----------------|-------|----------------------|----------------|-------|
|            |                          | Max Mean Value | Min Mean Value | Range | Max Mean Value       | Min Mean Value | Range |
| <b>SQ1</b> | 17                       | 7.62           | 6.33           | 1.29  | 7.62                 | 6.94           | 0.68  |
| <b>SQ2</b> | 13                       | 7.81           | 7.27           | 0.54  | 7.81                 | 7.51           | 0.30  |
| <b>SQ3</b> | 9                        | 7.83           | 7.39           | 0.44  | 7.88                 | 7.59           | 0.29  |

**Fig 7. Comparison of mean values and range of mean values across sub questions.**

The number of initial responses decreases as more questions are asked. This suggests that there is more clarity of thinking in the cohort as they progress through the study. This is in line with other studies (Clayton, 1997; Linstone & Turoff, 1975; McKenna, 1994) which have adopted a Delphi technique, attributed to deeper and more reflective thinking by research participants as the study progresses. It is also evident that the range of statistical mean values of the statements decreases as the study progresses, both when considering all statements and when considering consensus statements. This further consolidates the assertion that participants are refining their thinking as the study progresses.

Having now determined consensus answers to each of the sub questions it is possible to merge the outcomes and sort these into rank order based on mean values.

In combining individual consensus statements, it is possible to draw further trends from the data (Fig 8). The research cohort ranked, on the whole, unique features of the subject (SQ3) above values of the subject (SQ2), and in turn values of the subject (SQ2) above attributes (SQ1).

There is no evidence that other Delphi based studies consider the relationships between sub questions in such a fashion. Consequently, there is nothing to compare this trending observation with. Only by undertaking another study adopting with same approach to design and data analysis would it be possible to see if this was more than coincidence.

| Consensus Descriptor                                     | Mean Value | SQ 1 | SQ 2 | SQ 3 |
|--|------------|------|------|------|
| Combining different materials together to make a product | 7.88       |      |      | ✓    |

|   |      |   |   |   |
|---|------|---|---|---|
| Applying theoretical knowledge and practical skill to develop products and make things better | 7.84 |   |   | ✓ |
| Practical application of other subjects (Maths, Science)                                      | 7.83 |   |   | ✓ |
| Trial and error in pursuit of solving a problem   | 7.81 |   | ✓ |   |
| Designing (and making) real solutions for real problems                                       | 7.78 |   |   | ✓ |
| Allows pupils to develop empathy, recognising the needs of others                             | 7.77 |   | ✓ |   |
| Develops appreciation for all   | 7.77 |   | ✓ |   |
| Designing for future needs and opportunities  | 7.72 |   |   | ✓ |
| Provides freedom for individuals, and groups to make decisions                                | 7.71 |   | ✓ |   |
| Problem solving; Realise there is more than one way of arriving at a solution                 | 7.70 |   |   | ✓ |
| Effort and determination of the individual  | 7.64 |   | ✓ |   |
| Enables pupils to engage in real world problem solving  | 7.62 | ✓ |   |   |
| Working collegiately in teams to develop a common understanding                               | 7.60 |   | ✓ |   |
| Encourages effort and perseverance  | 7.58 |   | ✓ |   |
| Designing real world artefacts, for real world issues   | 7.55 | ✓ |   |   |
| Promotes opportunity for innovation   | 7.55 |   | ✓ |   |
| Ability to be creative  | 7.51 |   | ✓ |   |
| Encourages and promotes pupil autonomy  | 7.51 | ✓ |   |   |
| Promotes creativity   | 7.34 | ✓ |   |   |
| Develops designing skills   | 7.10 | ✓ |   |   |
| It is fun and engaging  | 7.01 | ✓ |   |   |
| It is stimulating   | 7.00 | ✓ |   |   |
| Opportunity to learn from modelling and experimentation                                       | 6.94 | ✓ |   |   |

**Fig 8. Combined list of consensus descriptors, sorted by mean value.**

### 3. Conclusion

In comparison to the current iteration of the National Curriculum (DfE, 2016a, 2016b) findings from this study suggest that those tasked with teaching the subject of Design and Technology view some of its underlying values, attributes and principles differently to the curriculum document which defines it. This conclusion is drawn through the derivation and inclusion of statements by the research participants in this study which are not evident in curriculum documentation.

These differences allude to the fact that the subject means different things to individual stakeholder groups, so it is little wonder that those who work outside of it struggle to understand its nuances and meanings (Hardy, 2016b). Without commonality in an approach to its definition it is hard to see how the subject can move forward in the face of constantly changing policy (DfE, 2011, 2013, 2016b) and educational direction (DfE, 2016a). This is in stark contrast to the practices seen in other parts of the world where an agreed and understood definition of the subject exists (Jones & De Vries, 2009).

In applying the Delphi technique to this study, the process has arrived at the point of data saturation through multiple rounds of engagement by participants. The study has enabled participants to derive a consensus of opinion in determining responses applicable to each of the research sub questions (SQ1, SQ2 & SQ3). However, it is still clear that there is some degree of overlap between responses to each of the sub questions. In considering this overlap one must determine if the three sub questions actually answer the main research question, focusing on defining what Design and Technology is? From the outset, participants were provided with the overarching research question and the sub questions and at no stage did anyone question the relationship between them. The inference drawn is that to this group of participants, the questions did indeed define what Design and Technology is, from their perspective.

Whilst not asserting that the findings presented here will halt the downward trajectory of uptake in the subject from pupils, it does suggest the principles on which a subject could be formed to take over from Design and Technology should it cease to exist in the future. Burns (2014) and Steeg (2008) argue that a new or refined subject which maintains the fundamental values of Design and Technology would be valued by those currently engaged in the delivery of Design and Technology. This study has provided evidence of what those

fundamental values mean to a group of classroom practitioners. It also offers further narrative that can be considered by those working outside of the subject in trying to understand it.

In seeking to further validate the findings of this work, the opinions of other stakeholders should be canvassed to see if they concur with the outcomes. Using the same methodological approach, it would be possible to undertake comparative studies using different identified research cohorts from a range of stakeholders, these could include; pupils, parents, employers, industrialists and teacher educators amongst others or indeed an amalgam of different stakeholders.

Considering next steps after this study, the outcomes from it do not provide a justification for the retention of Design and Technology. Neither do they present a view of where the subject should progress too in the future. Rather, the findings presented here seek to establish a base line from which any move forward can take place. Should the same staff be involved in the evolution of the subject who participated in this research, then paying due consideration to what they value about it most will ensure cooperation and “buy-in” as it evolves. If their views are to be considered as representative of the sector, then this provides a stable platform to understand how teachers of Design and Technology define the subject. Although it would be unwise to consider this as being definitive without further work to corroborate it.

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## Defining the Value of a School Subject

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#### **Abstract**

*One consequence of school performance measures is the prioritisation of some school subjects above others. The English Baccalaureate (EBacc), introduced in England in 2011, measures pupils' progress in five subjects only (English, mathematics, science, a humanities subject and a language), and excludes creative subjects such as design and technology (D&T). This suggests that some subjects have greater value than others but the justification for some subjects' inclusion and others' exclusion has been based on a perspective that draws on ideas from Hirsch (2006) and Young (2008). Counter arguments to this perspective have tended to focus on the economic and intrinsic value of the excluded subjects. This suggests that school subjects do have multiple values. The aim of this research is to establish a framework that could be used to explore and define the value of a school subject.*

*Once the subject-value framework was established it was tested using data gathered from interviews with people who had an interest in education and specifically, D&T. The values they attributed to D&T, such as how it might benefit pupils whilst at school and in later life, were explored and analysed using the framework. The results suggest that the constructed subject-value framework can be used to analyse the values individuals attribute to a school subject. A range of goals and benefits related to the subject can be determined, although distinguishing between the different types of goals needs further research.*

*Most values identified focused on how D&T helped individuals prepare for life beyond school. Additionally, the values reflected the economic justification for education, inasmuch that pupils learn skills in D&T they can use in future careers.*

*This constructed subject-value framework could be used as a means of analysing curriculum policy as it influences the values different people attribute to a subject. Further work could assess if this paper's findings are replicable or similar by testing the framework against other non-Ebacc subjects.*

## **1. Introduction and Approach**

### **1.1 Introduction**

Reflecting on our school years, we probably remember which subjects we thought were useful and which we did not. But how is useful defined? Different school subjects are perceived to be of different value to young people and this value may be realised whilst they are at school or later in life, for example in their home or employment. Also, different people place greater value on some subjects compared to other subjects, which can be dependent on their role, experience and age. For example, school leaders and governments suggest explicitly why a subject might be useful to an individual and society through policy documents, such as the English National Curriculum, and implicitly through school performance measures, such as the English Baccalaureate (EBacc).

The Ebacc is a performance measure that emphasises the importance of a broad and traditional curriculum (Department for Education, 2016) focusing on pupils' progress in five subjects (English, mathematics, science, a humanities subject, and a language), and excludes creative subjects such as music, drama, and design and technology (D&T). An argument for introducing the Ebacc was to increase the number of pupils following a broad and balanced curriculum (Education Committee, 2011) through to the end of secondary school, with the five Ebacc subjects providing the essential knowledge all pupils need as part of a general education. Justification for these arguments was influenced by Hirsch's (2006) views about cultural literacy and Young's (2008) views about powerful knowledge (Department for Education, 2011). Thus, the Ebacc implies that these five subjects are more valued than others due to their epistemology and their role as gatekeeper subjects; suggesting they open more doors to higher education and high earning careers than other subjects.

My interest focuses on the criteria for judging the contribution a school subject makes to an individual or to society, and its purpose. As I have already suggested, this topic is particularly relevant in a period where some subjects are perceived to have a greater purpose or value to an individual's education and to society.

### **1.2 Research aims and questions**

This article aims to explore and define the value of a school subject by establishing a subject-value framework. In the first part of the article the subject-value framework is built from value theory and views about the purpose of education. In the paper's second part, the

framework is tested using the school subject D&T, a non-Ebacc subject, and two research questions are posed:

1. Can the subject-value framework constructed in the first part of this paper be used to define a school subject's value?
2. Do the values attributed to D&T by a range of people reflect contemporary curriculum policy, economic drivers and other aims of education?

D&T is chosen as the focus because there has been a dramatic decrease in the number of pupils studying the subject. This is partly due to the Ebacc's introduction and a revised National Curriculum (Hardy, 2015a), which led to national campaigns by the subject's association, D&TA (Design and Technology Association [D&TA]) in 2011 (We believe in Design and Technology) and 2015 (Designed and made in Britain...?). The campaigns emphasised D&T's value to the national economy and an individual's employment prospects, plus how pupils developed an enterprising attitude because of their D&T lessons and gained transferrable skills (e.g. problem solving, creativity and critical thinking). These campaigns highlighted the ongoing argument about the vocational value of D&T, which has been shown in earlier work by McCulloch, Jenkins, and Layton (1985), Penfold (1988) and Wakefield and Owen-Jackson (2013). Due to its dramatic rise and fall between 1990 and 2011, and its contested value and place in the English National Curriculum (Bell, Wooff, McLain, and Morrison-Love, 2017; Hardy, Gyekye, and Wainwright, 2015; Hardy, 2015b; 2016) D&T is the focus of this study.

In the next section, value theory is used to construct a subject-value framework that defines the value of a subject.

## **2. Defining the value of a school subject**

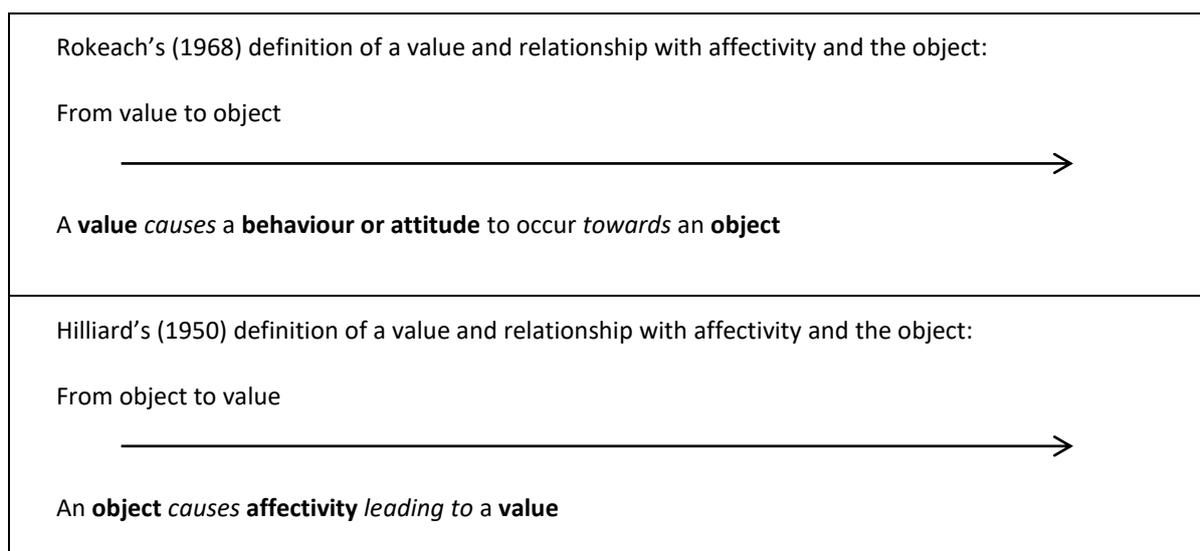
Value is a complex construct due to its 'varied and shifting connotations ... in ordinary speech' (Kluckhohn, 1951, p.389). In the context of this complexity, discussing the value of a school subject requires some definition and clarity which, along with a framework, can be used to explore the different forms of value a subject has. Rokeach's (1968; 1973) definition of a value is used by established researchers in education, sociology and psychology (such as Feather, 1975; McKernan, 2008; Schwartz and Bilsky, 1990; Wigfield and Eccles, 1992), and so the framework is built from his definition of a value:

[A value is] an enduring belief that a specific mode of conduct or end-state of existence is personally and socially preferable to alternative modes or end-states of existence. (Rokeach, 1968, p.160)

His definition focuses on the consequence of holding certain values: ‘... [it is] a standard or criterion for guiding action, for maintaining and developing attitudes towards relevant objects and situations ...’ (1968, p.160). His definition has dual aspect elements: the present (‘a specific mode of conduct’ and ‘how one ought or ought not to behave’), and the future (the ‘end-state of existence’).

Rokeach disagreed with behaviourists such as Hilliard (1950) whose definition of values focused on the value of an object or situation, such as an item of furniture or, in this paper’s context, a school subject. Hilliard (1950) determined that ‘value is affectivity occurring in the relational contexture determined by the reaction of an organism to a stimulus object’ where the stimulus object can be a ‘thing, situation, action, occurrence, [or] symbol’ (p.42). When comparing Rokeach’s and Hilliard’s definitions, Hilliard considers that the value a person attributes to an object is a consequence of their affectivity towards the object whereas Rokeach considers that a person’s values originate from a belief and lead to an attitude, which might include a feeling or way of behaving towards a thing, situation or object.

These two views disagree about the definition of value – the person holds the value (Rokeach), or the object (e.g. a school subject) causes the value (Hilliard) - but affectivity is common to both (Hitlin and Piliavin, 2004), which is the feeling or response to the object (Hilliard) or the feeling or response because of the value (Rokeach) (figure 1).



**Figure 1 Comparing Rokeach's and Hilliard's definitions of value**

Rokeach's definition of value also has a time facet with two elements, the present ('a specific mode of conduct' and 'how one ought or ought not to behave') and the future (the 'end-state of existence'). Rokeach clarifies:

Present: 'I believe that such-and-such mode of conduct is personally and socially preferable' (1968, p.160), Rokeach labels these as instrumental values;

Future: 'I believe that such-and-such an end-state of existence is personally and socially worth striving for' (1968, p.160), labelled terminal values by Rokeach.

Hilliard's (1950) definition also includes 'terminal' and 'instrumental' but defines them differently. An instrumental value is 'affectivity occurring in the contexture determined by an organism [e.g. person] and an object' (Hilliard, 1950, p.53) – therefore it is context bound; a terminal value is 'when the object is a last means to the end of affectivity' (p.53) – not related to time but 'for its own sake'. Hilliard explains his definition using the example of a table (the object) and a person (the organism) who proposes to construct the table using tools (another object). Whilst making the table, the tools have an instrumental value, and probably the table in its unfinished form as the person has enjoyment (the affectivity or emotion) as they make it. When the table is complete they will 'enjoy [the affectivity] the finished table "for its own sake"' (Hilliard, 1950, p.54), which is a terminal value. However, Zimmerman (2014, para. 1) uses the term 'intrinsic value' rather than terminal value when he argues 'that the thing has value 'in itself' or 'for its own sake' or 'as such' or 'in its own right'.

Hilliard organises the different elements of a value into a table (Table 1), with nine adjectives spread across four sets. He argues that there are twenty-four different modes of values, each one 'qualified by one adjective from each set and only one' (p.48); for example:

1. Actual direct positive terminal value
2. Actual direct indifference terminal value
3. Actual direct negative terminal value (Hilliard, 1950, p.58)

**Table 1 Nine adjectives and four sets (Hilliard 1950, p.48)**

| Set 1     | Set 2    | Set 3        | Set 4        |
|-----------|----------|--------------|--------------|
| actual    | direct   | positive     | terminal     |
|           |          | indifference |              |
| potential | indirect | negative     | instrumental |

Comparing Hilliard's definition with Rokeach's, there are additional features:

Actual or potential value of the object, which assumes that a person has a value of an object but that the immediacy of the value could be either actual or potential.

Positive, indifferent or negative affectivity towards the object. Rokeach's theory has the premise that we all have the values in his series, therefore they are positive, but the relative importance of one value to the other may differ for different people.

Direct and indirect: direct value is when there is an immediate relationship between the object and the person, an indirect value involves an intermediary or 'catalytic agent' (Hilliard, 1950, p. 56). 'Vicarious enjoyment is an instance of indirect value' (p.56).

Schwartz and Bilsky (1990), who build on Rokeach's definition, have two further attributes also not considered by Rokeach: motivation and interests (figure 2).

|   |  |
|---|--|
| A value that is an individual's concept of a tran-situational { | <p>GOAL</p> <p>terminal }</p> <p>instrumental</p>  |
| goal that expresses {   | <p>INTERESTS</p> <p>Individualistic</p> <p>Collectivist</p> <p>Both individualistic and collectivist</p> <p>} interests concerned with</p> |
| motivational domain {   | <p>MOTIVATIONAL DOMAIN</p> <p>Enjoyment...power</p> <p>(7 domains in total)</p> <p>} and evaluated on a range of</p>                       |
| importance from {   | <p>RANGE</p> <p>very important</p> <p>to</p> <p>unimportant</p> <p>} as a guiding principle in his/her life.</p>                           |

**Figure 2 Schwartz and Bilsky's mapping sentence to define values formally (1990, p.553)**

It is worth pausing to explain Schwartz and Bilsky's (1990) presentation of their value definition, which is a mapping sentence (Guttman in Hackett, 2016) and a feature of facet theory.

Facet theory was devised by Louis Guttman to understand human activities and knowledge, where the 'activities are formed of discrete components' and a facet categorises each discrete component as a set (Hackett, 2016, para 10). The mapping sentence 'is a formal statement of a research domain which includes the respondents, sub-categories of the research content along with the range over which observations will be made, in the structure of a sentence written in normal prose' (Hackett, 2016, para 12) and consists of three types of facets: population (respondent), content, and response (range) (Guttman and Greenbaum, 1998). Consequently, a mapping sentence makes transparent the areas considered within the

research domain and shows the relationship between the facets, clarifying the boundaries of the study.

Schwartz and Bilsky's definition of a value has four facets (goal, interests, motivational domain and range) and a respondent (the individual). Hilliard's four sets in Table 1 could be relabelled as facets; set 1 becomes importance, set 2 interest, set 3 affectivity and set 4 goal, and the 24 modes of a value each form a different sentence. Table 2 combines the four different definitions of a value discussed earlier (Rokeach, Hilliard, Zimmerman, and Schwartz and Bilsky) into five facets.

**Table 2 Facets and attributes of a value**

|    | Facet       | Attributes   |
|----|-------------|--|
| A. | Goal        | Terminal (Hilliard, Rokeach, Schwartz and Bilsky)<br>Intrinsic (Zimmerman)<br>Instrumental (Rokeach, Schwartz and Bilsky, and Hilliard)                |
| B. | Interest    | 1. Direct or indirect effect on the person (Hilliard)<br>Interests, which might be for the individual, society or both (Schwartz and Bilsky)           |
| C. | Importance  | 1. Actual or potential (Hilliard)<br>Range (Schwartz and Bilsky)   |
| D. | Motivation  | 1. Motivational (Schwartz and Bilsky)<br>Preference to the alternatives (Rokeach)  |
| E. | Affectivity | 1. Positive (Hilliard and Rokeach),<br>Neutral (Hilliard) or<br>Negative (Hilliard)<br>Either attitude or choice that results from the value (Rokeach) |

The goal, interest and importance facets contain the content elements of the definition of a value; essentially, they are the definition's components. Motivation and affectivity are response facets, initiated by, or resulting from, the respondent's affectivity towards the object being attributed with a value. Because this study aims to define the values attributed to a subject, not the origins or consequences of the values a respondent attributes to the subject, only the first three facets are necessary for this study's subject-value framework.

Future work could explore the origins (motivation) and consequences (affectivity) of the values an individual attributes to a school subject.

The mapping sentence in figure 3 can be presented as the following definition:

A value is an individual’s concept of a specific instrumental, terminal or intrinsic goal that is either potentially or actually important to the individual, society or both as a guiding principle.

|   |  |
|---|--|
| A value that is an individual’s concept of a specific | GOAL<br>instrumental<br>{ terminal } goal that is<br>intrinsic                                       |
| { potentially<br>actually                             | IMPORTANCE<br>{ potentially<br>actually } of interest or benefit to                                  |
| the { individual<br>society<br>individual and society | INTERESTS<br>individual<br>{ society } ‘s interests as a guiding principle<br>individual and society |

**Figure 3 Mapping sentence for definition of a value**

This definition relates to a school subject if we look at how different authors propose the value of education, or, the purpose of education. Young (2014) argues that the acquisition of ‘powerful knowledge’, (knowledge that is specialised and transformative), is different from the instrumental purpose of education, which is to achieve specific qualifications and gain employment. Others who also believe a purpose of education is to acquire knowledge, such as Hirsch (2006) who influenced the curriculum changes designed by the Coalition government in 2013, define knowledge as objective. This instrumental view of education has commonly been translated into a form of schooling built around traditional academic subjects, such as science, maths, history and languages.

Unlike Young, MacAllister, Macleod and Pirrie (2013) argue that epistemic excellence ‘should be *an* educational purpose rather than the *only* educational purpose’ [emphasis added] (MacAllister, Macleod and Pirrie, 2013, p.162), which leads to a definition of the purpose of education with three factors. Firstly, that education should support pupils in engaging with traditional and practical knowledge, secondly, pupils’ capacities and

experiences are important and thirdly, education should promote human flourishing. Similarly, Reiss and White (2013, p.1) present two aims for education: '(1) to lead a life that is personally flourishing; (2) to help others to do so'.

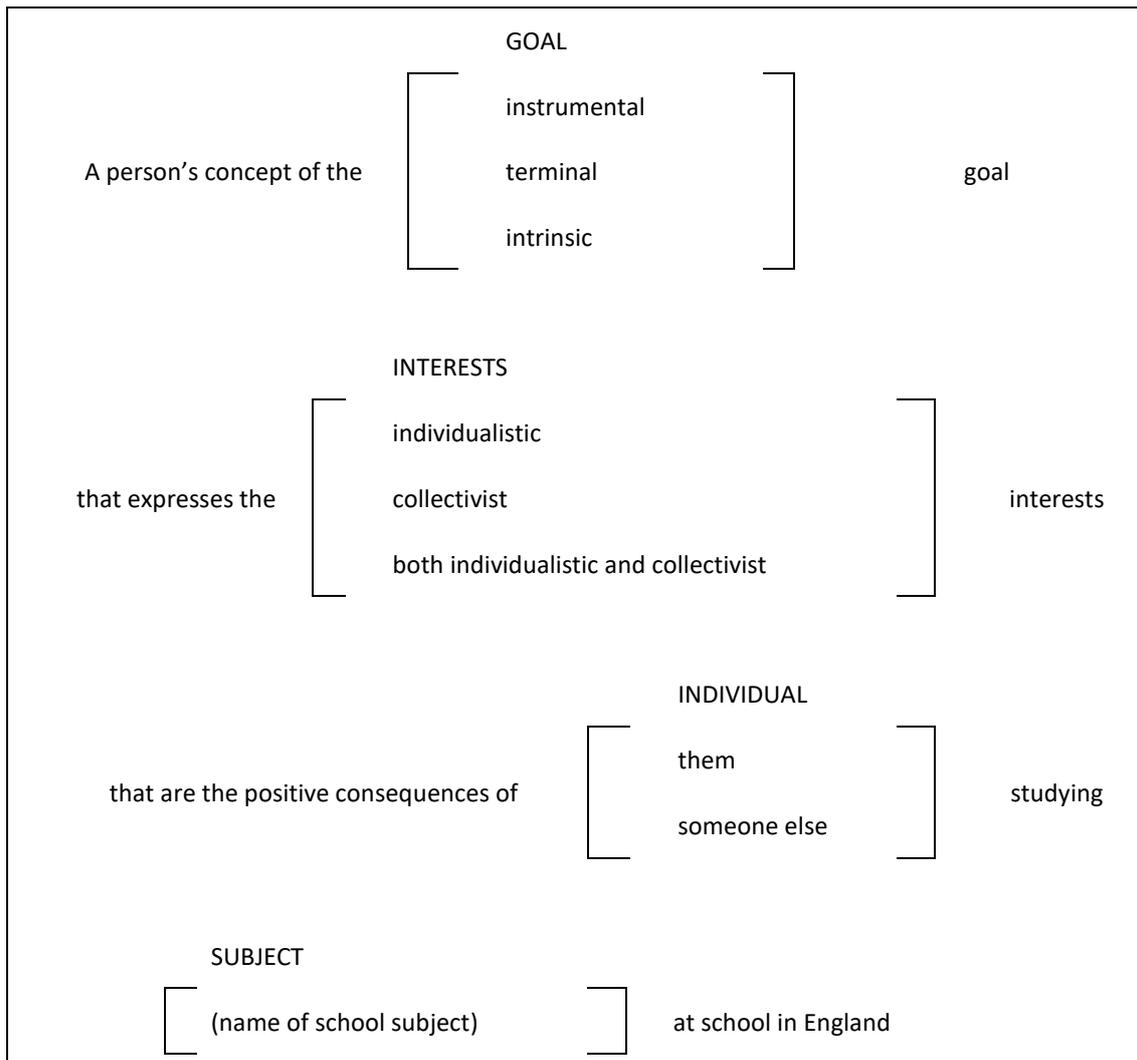
These views of the purpose of education relate to the mapping sentence (figure 3) as it suggests that one value of education (the object) is how an individual gaining an education helps not only themselves (the individual) but also others (society). Furthermore, it could be argued that Reiss and White's and Young's opinions do relate to the present (instrumental) and to the future (terminal). The intrinsic facet of the goal is implicit in MacAllister, Macleod and Pirrie's and Reiss and White's views that education should promote human flourishing.

Subjects, then, sit within formal education. This article makes no attempt to challenge this notion but merely accepts that this is the current status quo. So, if the different facets of the purpose of education can be recognised within the mapping sentence it can be proposed that a subject (that sits within formal education's common structure) will also have these facets. Figure 4 is the constructed subject-value framework in the form of a mapping sentence for the definition of a value of school subject.

The proposed sentence for defining the values attributed to a school subject is:

A value of [school subject] is a person's concept of the [instrumental/terminal/intrinsic] GOAL that expresses the [individualistic/collectivist/both individualistic and collectivist] INTERESTS that are the positive consequences of INDIVIDUAL [the person/someone else] studying [name of school subject] at a secondary school in England.

The individual facet adds the tran-situational element from Schwartz and Bilsky – that it is not only about the respondent studying the named school subject but can be an inferred value from others studying the subject.



**Figure 4 Proposed mapping sentence for defining the values attributed to a school subject**

This mapping sentence has three well-defined facets: goal, interest and individual. The elements within each facet are clear, with three goal elements, three interest elements and two individual elements. Therefore, the mapping sentence has 18 different modes (i.e. 3 x 3 x 2); for example, taking the first element of each facet provides the sentence 'a person's concept of the instrumental goal that expresses the individualistic interests that are the positive consequence of them studying [name of school subject] at school in England'. The elements can be used to analyse respondents' opinions about the value of a school subject and show that a value is not a simple concept but one that is complex (Kluckhohn, 1951).

In the next section this subject-value framework, presented as a mapping sentence, is tested using values attributed to D&T in interviews with people who have an interest in D&T.

## 2. Methodology

This is a constructivist and interpretivist study; my ontological and epistemological positions determined the data collection method and my approach to data analysis, which is discussed in the next section.

### 2.1 Method

To identify the values attributed to D&T active interviews were used; active interviews (Holstein and Gubrium, 1995) are when the interviewer and interviewee co-construct an understanding of the research domain during the interview. In an active interview the interviewer utilises 'resources, connections and outlooks...encouraging respondents to develop topics in ways relevant to their own experience' (p.17). Therefore, I explored the participant's values of D&T using a variety questions about their D&T history (e.g. if they study it at school), their current experiences, and any perceived influences from their families. The fluidity of the active interview allowed for an exploration of the participants' understanding of D&T and their experiences (whether as a pupil, parent or teacher) through the narrative that came from the participants (Holstein and Gubrium, 1995). Furthermore, and given that Lovejoy (1950) and Rokeach (1968) argue a person's values can only be observed, not heard, the interviews only reveal the participants' perceptions of their values, therefore the data analysis is an interpretation of the participants' perception of their values.

Although facet theory has more commonly been used in quantitative research, Hackett (2016) showed that facet theory and the mapping sentence can be used in qualitative studies as 'provid(ing) a hermeneutically consistent account of a domain of interest' (para 14). In this study the domain of interest is the values attributed to a school subject, with three facets (goal, interests and the individual), providing themes and sub-themes (the elements within the facet) for analysing the values attributed to a school subject.

The study followed BERA's (2011) ethical guidelines; permission was obtained from the schools, the pupils' parents and all participants prior to the interviews taking place; all were made aware of the purpose of the interview and how their data would be used and stored. No identifying features of any institution or participant are given in this paper to maintain participants' right to anonymity.

Twenty-two active interviews, lasting between 15 and 25 minutes, were conducted with a purposive sample representing people who had an interest in education and D&T: pupils (n=12), school senior leaders (n=4), D&T teachers (n=4), D&T trainee teachers (n=3), teacher educators (n=3). Three parents were surveyed for their views about the value of D&T using a paper-based survey; as a school senior leader felt that parents would not be willing to come into the school for an interview. The interview questions were designed using the mapping sentence; for example, participants were asked in the interview to talk about why D&T should be taught in schools and how it could be useful to an individual and to society. The school-based participants (pupils, D&T teachers and senior leaders) were from two schools in an East Midlands city; one a city school, the other in the suburbs of the same city. Therefore, results may not be generalisable to all schools in England because rural schools are not represented in these data. One D&T trainee teacher was studying at a university in the same city and two from a North East University; the teacher educators were from the same North East University as the trainees, a London University and a South Midlands University. Covering several different higher education institutions meant it was possible that a wider range of values would emerge than if all the participants came from only one institution or school (Dow, 2014; Feather, 1975).

The data was collected between March and May 2014 as the impact of the Ebacc was being felt by D&T teachers (Hardy, 2015a); acknowledging that the data reflected a tumultuous time for D&T when D&T teachers were feeling the need to defend their subject (Design and Technology Association and Education for Engineering, 2013; Design and Technology Association, 2015). There is no claim here that the participants' views represent all the values attributed to D&T but they do provide a starting point to explore its value in a consistent manner.

## **2.2 Data coding**

The data was coded using a grounded theory approach (Auerbach and Silverstein, 2003). Computer analysis data software MAXQDA was used to manage the large amount of data. There were three coding steps (table 1). In coding cycle 1 all segments of relevant text were highlighted and coded 'value'. Next, each segment was coded with at least one 'goal' code (coding cycle 2) and one 'interest' code (coding cycle 3), which corresponds to the interest and goal facets from the mapping sentence. The individual facet was included because some

participants had not studied D&T at school, therefore the values they attributed to D&T are because of someone else studying D&T. The initial assumption was that there would be a maximum of nine sentences (three goals multiplied by three interests).

**Table 3 Data analysis coding cycle**

|                | Activity               | MAXQDA label                                       |
|----------------|------------------------|--|
| Coding cycle 1 | Identify value         | Code = 'Value'                                     |
| Coding cycle 2 | Identify goal type     | Code = 'Instrumental' or 'Terminal' or 'Intrinsic' |
| Coding cycle 3 | Identify interest type | Code = 'Individualist' or 'Collectivist'           |

After the first coding cycle 436 segments were identified as a value across the 22 data sets. This did not indicate that there were 436 different values attributed to D&T by the participants as repeating themes occurred.

### 3. Testing the subject-value framework

In this section the first research question is answered - can the mapping sentence constructed in the first part of this paper be used to define a school subject's value? -by examining whether the elements within each facet were sufficient. Essentially, do the three elements in the two facets (goal and interests) provide a hermeneutically consistent account of the value of a school subject?

#### 3.1 Goals

In the second coding cycle (Table 3) the different goals a value might meet were identified:

The positive consequence in the future (terminal);

The positive consequence now (instrumental);

The positive consequence that D&T can have 'for its own sake' (Zimmerman, 2014, p.1) (intrinsic).

Some segments could not be coded with only one of these three goals, and four additional elements were added. Thus, showing that the subject-value framework in section 3 does not provide a hermeneutically consistent account of the goal facet. However, when the four new elements were added all 436 segments from coding cycle 1 were able to be coded with one of the seven elements.

Instrumental goals were commonly utilitarian. For example, 'You could make clothes if you wanted to' (Pupil).

Terminal goals were for the future, and commonly utilitarian. For example, 'If I wanted to do it later in life you can make dresses and stuff and then you'd be able to pick up skills that you wouldn't have been able to do because you haven't learnt them before. So, it'd be more helpful for later in life' (Pupil).

A value that had an intrinsic goal was not necessarily time-bound, that is either for now or the future, but suggested a feeling of satisfaction or enjoyment. For example, 'It's just nice to be able to be creative and when you can say I designed that, I built that, there's a lot of pride in technology' (D&T teacher).

Values that were both instrumental and terminal had the idea that the value contributed both to today and the future. Sometimes this was explicit such as when a D&T teacher said '[D&T] gives them a bit of a flavour of what's out in industry. What jobs they're going to do in the future' and implicit when a senior leader commented about 'being able to do something for yourself. It's learning practical skills'.

An instrumental and intrinsic goal suggested that an individual gains satisfaction knowing they can do something or use a new piece of knowledge today. A pupil explains why he likes making food in D&T: 'you feel like you've achieved something when you eat it and you like it'.

An intrinsic and terminal goal was about the satisfaction gained later in life because of their learning in D&T. For example, when a senior leader talked about the 'passion' some pupils will have for working in their chosen career.

Segments within all three goals implied that there was satisfaction in learning something which could be used at school, and beyond. For example, when a science teacher talked about 'the quaintness of just having something that I've made and then using that I wouldn't have necessarily appreciated then but now I think it's something quite nice to make'.

The instrumental-only goal code was the largest type of goal with 216 segments (49.5% of all goals), a further 156 segments had an instrumental element; meaning 85.3% of the segments had an instrumental element (see table 4).

**Table 4 Distribution of goal elements**

| Code                                 | Number of segments | Coded segments (%) |
|--------------------------------------|--------------------|--------------------|
| <i>Goals</i>                         |                    |                    |
| Instrumental only                    | 216                | 49.5               |
| Terminal only                        | 13                 | 3.0                |
| Intrinsic only                       | 47                 | 10.8               |
| Instrumental and Terminal            | 121                | 27.8               |
| Instrumental and Intrinsic           | 32                 | 7.3                |
| Instrumental, Terminal and Intrinsic | 3                  | 0.7                |
| Terminal and Intrinsic               | 4                  | 0.9                |

Only 13 segments were coded only as a terminal goal (3% of all goals). The segments coded with the attribute terminal-only predominantly related to employment and the economy. In this type of goal participants referred to the value of D&T in the future but did not mention what pupils were learning today that would contribute to this. For example, one parent commented: 'Practical skills will help them live an independent life more easily and look after themselves' but they did not mention which practical skills they would learn.

With 121 segments (27.8%) coded instrumental/terminal this was the second largest goal type after instrumental-only. The predominant themes related to pupils learning about potential future D&T-related careers, how humans interact with technology and the impact of products on the environment.

Segments coded with the intrinsic-only element (10.8% of all goals) referred to emotions such as pride, enjoyment, fulfilment and love. One teacher educator commented:

... allow that love of materials and manipulating materials to continue to be developed and not be crushed.

The 32 segments (7.3%) attributed as instrumental/intrinsic were associated with pupils making and creating new products using materials (such as wood, fabric and food ingredients), the opportunity to be creative when designing, and enjoyment. The idea that learning to make and having the opportunity to be creative was enjoyable and gave satisfaction was a recurring theme in this goal type. Also, some segments had a theme of curiosity and interest, for example a D&T teacher's comment 'just to understand about

materials and products' speaks of a curiosity, which leads to individuals learning about materials. This is echoed by a trainee D&T teacher: 'There are going to be some kids that do enjoy it and they want to learn more about it' and a comment from another trainee about 'opening the door' implies a curiosity about the motivation to learn something new. Others talked about the enjoyment and satisfaction gained from learning something new. One pupil comments:

With a lot of subjects, you do know stuff, but you can't really show that you know it. But with food or DT you can make something, and you feel like you've achieved something.'

This was coded as both intrinsic and instrumental because the pupils are learning something (instrumental) and have the satisfaction (intrinsic) of demonstrating this by making something.

The category terminal/intrinsic contained only 4 segments (0.9%). The idea of a terminal/intrinsic goal is satisfaction felt in the future from something learnt in school today because it enables the individual to do something later in life. For example, it is about individuals learning skills for future use, or for a specific job, but other skills, e.g. cooking, is because it's 'a passion of theirs' (senior leader).

For a D&T teacher it was about the potential personal satisfaction of working for a local company:

A little Year 7 boy told me yesterday that his granddad worked for a company which is now Siemens, back in the day he worked for Plessey. I said I know the company. They were huge in this city. So, if you can say I've worked for them, in some ways you've made it in life, you've got a bit of kudos. It gives a sense of pride to the area.

This supports the idea that job satisfaction is achieved indirectly from studying D&T in school. Additionally, for one of the teacher educators, it was a career that 'fits' the individual and therefore motivates them in school:

that aspects of broad vocationalism as part of technology could actually be quite a useful motivational factor for a lot of pupils that would otherwise be disengaged from a rather over-academic curriculum.

Only three segments (0.7%) were attributed as instrumental, terminal and intrinsic. The idea was that talent and interest, combined with learning new skills and knowledge, could be used later in life, possibly in a career. For example, a senior leader comments:

I think about a lad who we've got in our school who I taught in Year 9, he was pretty good at history, but he always liked design [intrinsic]. He's in the sixth form now and he's going to be a joiner for a very successful local company [terminal]. He's talented and he's practiced, but not only has he just made things with wood all the way through, but he's actually had some proper skills taught to him [instrumental].

A pupil was able to consider how they enjoy learning something today and how it will be useful in the future:

Well I actually really enjoy food technology, so I think that in the future it will help me to become more persistent in cooking my own meals instead of takeaways and things like that.

Therefore, analysis of data coded as a goal shows that the original mapping sentence (figure 4) contained insufficient elements, and could not provide a hermeneutically consistent account and therefore needed to include four more elements:

1. instrumental/terminal
2. instrumental/ intrinsic,
3. terminal/intrinsic and
4. instrumental/terminal/intrinsic.

### **3.2 Interests**

In the third coding cycle (table 3) the different interests a value would or could meet were identified:

An individualistic goal was where the participant referred to the value relating to an individual only, such as when a D&T teacher said, 'It gives them opportunities to do things like problem solving'.

A collectivist goal was when there was a benefit to society because an individual has studied D&T at school, for example when a pupil comments: 'You wouldn't have things

like tables and chairs that we're on now if you didn't have D&T. ... because it takes people to do this that are in the D&T industry...'

Segments labelled with both detailed what the individual learns in D&T that benefits society, for example when a D&T teacher talks about the importance of learning about environmental issues: 'Well I think it's important to know [about] environmental issues, polluting the planet and knowing that they can grow their own foods locally rather than getting them from abroad'.

Unlike the goal facet, no additional elements needed to be added to the interests facet.

**Table 5: Distribution of interest elements**

| Code                               | Number of segments | Coded segments (%) |
|------------------------------------|--------------------|--------------------|
| <i>Interests</i>                   |                    |                    |
| Individualistic only               | 377                | 86.5               |
| Collectivistic only                | 48                 | 11.0               |
| Collectivistic and Individualistic | 11                 | 2.5                |

Over eighty-six per cent of all segments were categorised 'individualistic' (see table 5), suggesting that participants viewed individuals as the primary beneficiaries of D&T, for example, a pupil comments: 'it gives you the skills you might need for a later career'. Whilst it could have been interpreted that society benefits because the pupil gains these skills, it was interpreted as not being the pupil's focus here – they appear to be only thinking about how they will benefit; therefore, it has individualistic interest only.

Generally, segments were individualistic, such as when the participants believe D&T can benefit a pupil's career or develop skills. For example:

Training them for the world of work in a different way and it's giving them that opportunity (senior leader).

If you didn't do D&T in schools, then eventually when it comes to what you want to do as an adult then you'll be thinking I want to take the construction path, but I have no experience whatsoever and I'll have to start again. But if you start in

Year 7 you've got five years just to get your head around it and see what it's all about (pupil).

Most segments categorised collectivist focus on the benefit D&T has for the economy, whether directly needed for the economy, such as when a pupil comments:

You wouldn't have things like B&Q and stuff like that, those DIY shops. [because] you wouldn't know how to use even the basic things like hammers.

Or because certain jobs are filled because of D&T:

There'd be loads of things that wouldn't be able to happen. There'd be loads of jobs that no one would do (pupil).

Segments coded with both interests had two connected parts. Generally, the first part identified what the individual learns in D&T, the second part identified how the learning mentioned in the first part could benefit society. For example:

We teach that and that makes people aware of saying right well I'm not going to put that can into that bin, I'm going to make it recycle and we recycle. So, it's having a huge impact on the environment (D&T teacher).

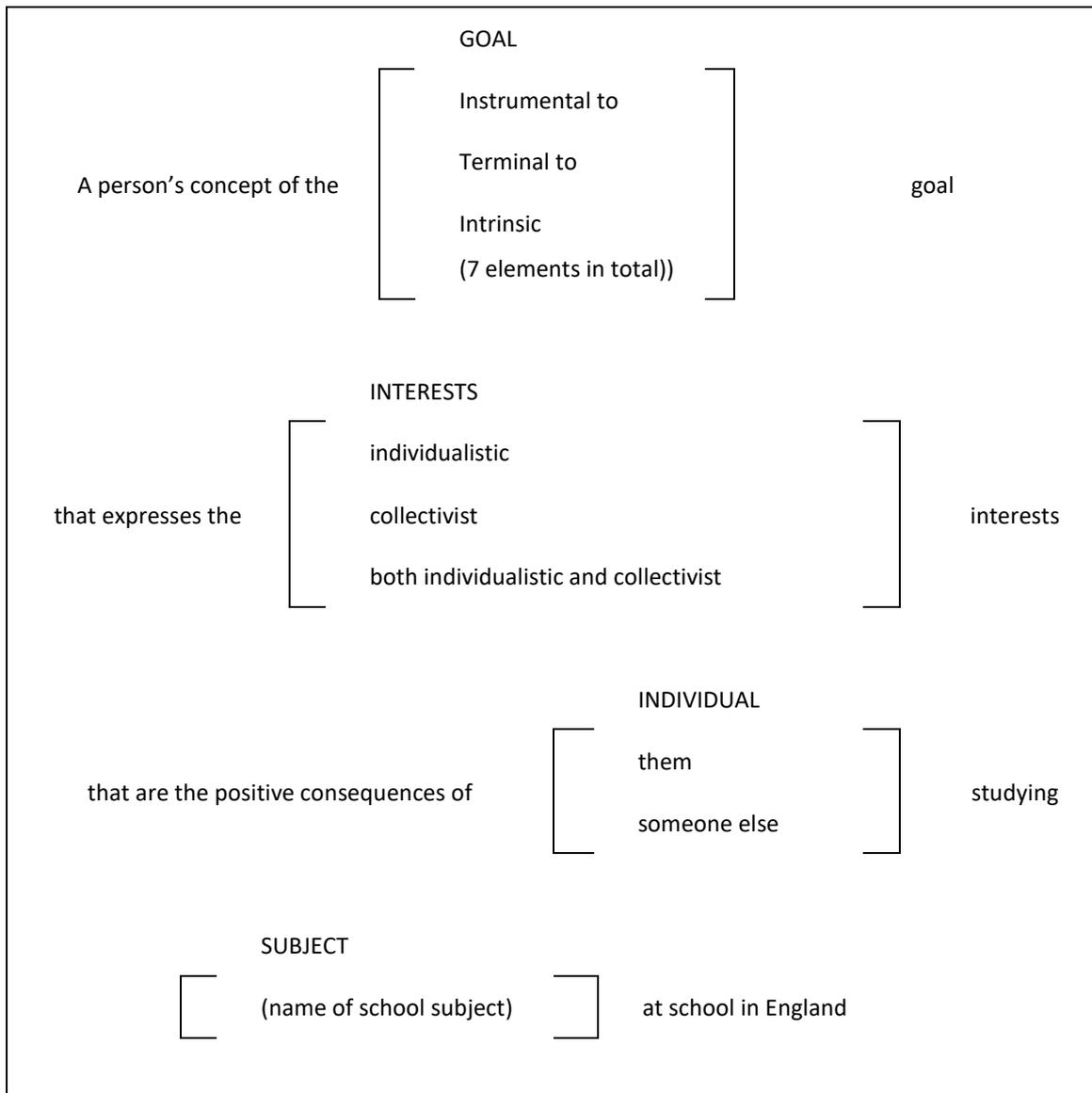
Whilst most 'both' segments were easily identified, some needed more interpretation. A teacher educator's comment: 'learn to communicate with people to get things' appears to be self-serving, the individual learns communication skills that help them get what they want, instead, it was interpreted to mean that by learning to communicate they can explain what they want in a socially acceptable way and consequently this helps the individual take their place in society. Another teacher educator's comment that D&T is 'necessary politically in a democratic curriculum' is interpreted as meaning that the individual pupil who receives the democratic curriculum is enabled to understand and engage with the country's politics.

The individualistic nature of values generally referred to the individual's making economic gains and employment (e.g. learning skills to use in future D&T related careers) as well as those focussed on generic skills, such as learning how to manage and plan their time and work independently. There was some reference to a collectivist benefit when the participants discussed how the country's industrial and economic competitiveness might benefit because individuals learnt skills for design and engineering careers. However, although the

participants explicitly attributed values to D&T that were collectivist, there is an individualistic prerequisite because for the national economy to grow the majority of individuals need to earn an income.

The results of this analysis suggest that the interest facet contained sufficient elements, unlike the goal facet, although their definition needed careful interpretation to be consistently coded and analysed.

Therefore, in answer to the first research question, whether the mapping sentence in figure 4 was sufficient (research question 1), the evidence presented here indicates that it was not because the goal facet did not provide a hermeneutically consistent account of the purpose of D&T. Consequently, the mapping sentence needs to be modified and would benefit from being tested using data collected similar to this study but about another school subject. A modified mapping sentence is presented in figure 5.



**Figure 5 Modified mapping sentence defining the value of a school subject**

#### 4. Discussion

In this section the data analysis is explored to answer the second research question - do the values attributed to D&T by a range of people reflect contemporary curriculum policy, economic drivers and other aims of education?

A significant number of the instrumental-only goals were coded as being individualistic, which suggests that the dominant idea held by these participants is that the primary purpose of education is to benefit an individual's life in a utilitarian and functional way. This idea appears to conflict with the 2013 National Curriculum aim of pupils becoming educated citizens (Department of Education, 2013) but it could be interpreted that an educated citizen should be able to look after themselves, which concurs with the curriculum aim of D&T to

‘develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world’ (Department of Education, 2013, p.192). Therefore, the values these participants attributed to D&T more closely reflects subject-specific curriculum policy and to a lesser extent National Curriculum policy.

The values coded as terminal-only predominantly related to employment and the economy. Whilst some pupils did not necessarily have a personal interest in the subject (indicated by their decision to not continue studying D&T post-14) they did recognise that it provides a means to an end, helping some individuals achieve a desired end-state (such as employment in a D&T related career, e.g. designer or engineer), which Rokeach (1968) defined as a terminal value. There is strong evidence in the data that participants can see the terminal value of D&T because 32.4% of the goal segments have a terminal element to them. This supports the argument made by D&TA in their two campaigns (Design and Technology Association, 2011; 2015) that D&T helps pupils in their future careers and the enduring value of D&T as a vocational subject (McCulloch, Jenkins, and Layton, 1985; Penfold, 1988; Wakefield and Owen-Jackson, 2013). The emphasis on work and employment is particularly significant, with values that have a greater percentage of terminal attributes focusing on work-related skills, either for D&T-related careers or those useful in any career.

The notable emphasis on D&T’s individualistic benefits implies the participants believed education is about helping an individual succeed and flourish, which supports Reiss and White’s (2013, p.1) first aim of education ‘(1) to lead a life that is personally flourishing’. The implication that the participants focus more on the individualistic benefits of education suggests they place less emphasis on Reiss and White’s (2013) second aim of education which is to help others have a flourishing life. However, the mutualistic relationship between Reiss and White’s aims when considering how D&T can help the country be competitive through design and engineering suggests the individualistic emphasis could be necessary if society is to flourish.

The idea that studying D&T means individuals are better placed to help society is seen in this shift from individualistic to collectivist in segments coded instrumental/terminal. For example, in this exchange with a D&T teacher:

**Interviewee:** Well, I think I'm looking at those chairs down there, they're wood aren't they and they've got textiles on them as well. Somebody's had to go through a process of learning about new materials, how they work, how they can construct it, to be able to design that.

**Facilitator:** So that's one of the things that D&T brings.

**Interviewee:** If we don't have that, then what's going to happen when we don't have any new designers, or somebody else to develop new technologies?

These different goal elements represent how D&T meets different needs, thus reflecting a broader range of educational aims than those indicated in contemporary curriculum policy (e.g. Department of Education, 2013). By suggesting so many different goals, the participants are acknowledging between them that there are many reasons why individuals value D&T.

In summary, the values espoused by the participants show a bias towards how D&T is of benefit to the individual and of instrumental and terminal value. Therefore, the values attributed to D&T by these participants reflect some aspects of contemporary curriculum policy. Additionally, according to these participants, D&T does respond to economic drivers, but they tended to refer to an individual's economic needs, rather than the country's economic requirements. Finally, there was some indication that D&T met educational aims other than those stated in government policy by helping individuals develop as human beings (MacAllister, Macleod and Pirrie, 2013).

## 5. Conclusion and future directions

This study's research aim was to construct a subject-value framework that could be used to explore the values attributed to school subjects, with two research questions:

1. Can the subject-value framework constructed be used to define a school subject's value?
2. Do the values attributed to D&T by a range of people reflect contemporary curriculum policy, economic drivers and other aims of education?

There were two justifications for this research; first, the perceived effect of a new school performance measure (the Ebacc), which singled out some subjects and excluded others leading to the decline in popularity of some school subjects (such as D&T) and second, the

ambiguous criteria, used by policy makers, schools and others, for judging the value of different school subjects and the contribution they make to individuals or to society.

Drawing on value theory and prominent views about the purpose of formal education, a subject-value framework was constructed in the form of a mapping sentence (figure 4), which it was anticipated could be used to define, in a hermeneutically consistent way, the value of a school subject. To answer the first research question the framework was tested using the values different participants attributed to D&T; analysis of these values showed that the mapping sentence did provide a means for analysing the values these participants espoused. However, it also revealed some difficulties in the assumed demarcation between the elements within the goal facet. Therefore, the framework was not sufficient and required modification (figure 5). This modified mapping sentence would benefit from being tested with a new study using different school subject.

In response to the second research question, there was evidence that the participants thought D&T could fulfil the National Curriculum aims and provide skills for future employment. But, there was less evidence that participants thought D&T enabled children to flourish or helped others to do so.

Further research could be conducted in three areas. This paper has presented a broad-brush view of the elements within the interest and goal facets; it would be worth exploring any themes that emerged from within the elements. Secondly, this constructed subject-value framework could be used as a means of analysing curriculum policy. Finally, advocates of other non-Ebacc subjects (e.g. music and art and design) could use the framework to define the unique contribution their subject makes to a general education and assess if this paper's findings are replicable or similar.

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## THINK PIECE: Who is Valued and What is of Value?

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The subject of values is complex; this short paper will consider the values held by teachers, and who is valued within teaching. The first area to be examined will be the way in which values are expressed in the mechanisms that drive the assessment of classroom practice in Initial Teacher Education. Inevitably, such an examination cannot avoid engaging with a debate around attainment and achievement, through a consideration of what we value in teachers both as professionals and in the way that they meet the learning needs of the children and young people with whom they come into contact in their daily work. This leads to a second area, focussing on the degree to which these values are instrumental in producing and supporting a differentially weighted schooling system, where some pupils are valued more than others.

In England, the Teachers' Standards are described as the minimum level of practice expected of student and serving teachers when awarding Qualified Teacher Status (DfE, 2011). The Standards are presented in three parts, a Preamble, followed by Part One – Teaching, and Part Two – Personal and Professional Conduct. The Preamble 'summarises the values and behaviour that all teachers must demonstrate...' in a little over four lines. Achieving the highest standards in work and conduct is mentioned, as are subject knowledge and skills. Working with parents in the best interests of pupils is also required. However, the only mention of what might be considered as values comes in the phrase that teachers should act with 'honesty and integrity'.

In Part One – Teaching, the only specific mention of values is in Standard 1, about setting high expectations for pupils, where there is a requirement that a teacher must demonstrate, consistently, ‘the...values...which are expected of pupils’. The remaining seven Standards can be seen to represent a set of exemplars connected to the knowledge and skills of teaching, such as the accurate use of assessment, managing behaviour effectively and fulfilling wider professional responsibilities. It is worth noting here that, currently, the final assessment, undertaken on school placement, of a student teacher before gaining Qualified Teacher Status is based wholly on the Part One standards, where compliance with an attainment led model is privileged.

Part Two of the Standards begins with an expectation that a teacher will demonstrate consistently high standards of personal and professional conduct, a statement that is followed by a list of attributes that define the behaviour and attitudes for the ‘required standard for conduct’. Values are mentioned only once; teachers should not undermine ‘fundamental British values’, of democracy, the rule of law, individual liberty and mutual respect, and tolerance for those with different faiths and beliefs. Whilst these are not seen as relating specifically to initial training and are not graded as part of the award for QTS, the Part Two Standards are seen as the benchmark against which teacher conduct, or misconduct, is appraised.

So, it is clear that teachers in England are expected to demonstrate compliance with a somewhat ephemeral set of ‘Standards’ that lack any real engagement with the precepts of their role, for example those connected to the moral imperative of teaching, or of values such as those described in the Professional Standards for Teachers in Scotland, which include social justice, equality, openness, courage and wisdom (GTCS, 2017).

There would seem to be an alignment here with the frequently stated commitment of the English Government to raise standards, stated in terms of levels of attainment, rather than considering the broader achievements of children and young people, something that is difficult to measure using the metrics currently favoured within that system. It could be suggested that the Teachers Standards are increasingly used to frame this agenda, with a narrowed focus on driving up standards of attainment, through the uncritical use of prescriptive teaching methods driven by the acquisition, retention and testing of knowledge.

Such an agenda seems to be based on how children and young people are valued, rather than on a set of shared values that address the learning needs of all pupils. Increasingly, pupils are seen as being above or below expected standards, or achieving or failing to achieve, arbitrary benchmarks, further disadvantaging and marginalising those who fail to reach these goals.

This leads to the second area of consideration; how this affects children and young people with Special Educational Needs and Disability (SEND), a group of pupils who appear to lack value within the English education system, despite legislation and policies that suggest otherwise. The Equality Act (HMSO, 2010), whilst including disability amongst the protected characteristics covered by the Equality Duty, treats disability differently to characteristics such as sexual orientation, race, and age, by allowing unequal treatment where required to ensure that those with SEND can enjoy equitable treatment. An education provider has a duty to make reasonable adjustments to ensure that a pupil with SEND is not discriminated against, for example in providing aids or extra support, and such adjustments are often to be found in schools.

Whilst beneficial to individual pupils, the reasonable adjustment duty can be seen as both divisive and indicative of a less benign view of the value of pupils with SEND. Those pupils who are provided with additional support or specialist aids are seen as different, requiring 'special help' because of their 'special needs'. If we were to consider the concept of 'inclusive pedagogy' (Florian, 2017), which advocates the extension of teaching and learning to meet the needs of all pupils, rather than overcoming barriers inherent in classroom practice by the provision of additional resources, the inequality of such approaches becomes apparent. In this sense it might be considered that the reasonable adjustment duty is akin to a consideration of the financial value of a pupil.

This is a position that has been argued elsewhere (Runswick-Cole, 2011). The Children and Families Act 2014 (DfE, 2014) requires a child with an Education, Health and Care Plan (EHCP) to be placed in a mainstream school, subject to two exemptions. The first of these rests on the wishes of the parent or guardian and the second on the provision of efficient education for others. The conclusion that can be drawn from this is that the education of pupils with significant levels of SEND compromises efficiency, and this is seen as unwelcome, leading to the disabling of these pupils, allowing them to be excluded from what is likely to

be their local school, a setting likely to be attended by siblings and peers from their potential friendship group.

This sense of exclusion is not confined to a pupil's access to a particular type of schooling, and it is here that the concept of separate but equal needs to be considered. Schooling in England provides many examples where pupils attend schools of a particular character, for example single sex schools or special schools; whilst separate, the schools are considered to be equal in that pupils are not treated less favourably in one setting than another.

This is at least arguable, if not clearly untrue, in the case of special schools. Again, it must be made clear that this does not apply to all aspects of current practice, indeed many would argue that the quality of relationships, the education provided around social and personal care, and the focus on achievement in the widest sense that is a facet of most special schools is evidence of these settings providing an outstanding education. This cannot disguise the fact that this sort of education could be provided within mainstream schools for most, if not all, pupils who are currently in segregated provision, to the benefit of all in creating a more diverse society based on the sort of respect for others contained in the third of the fundamental British values discussed above, and as an indicator of the way that these pupils are valued.

In some significant areas, however, less favourable treatment can be suggested. The first is in transport, where many pupils attending special schools experience journeys that are both much longer and more isolating than their counterparts in mainstream settings. The second area is linked to the first. Special schools tend to have very large catchment areas; this means that children who attend those schools travel for many miles to learn alongside other children with a similarly identified 'condition', leaving them socially excluded on all fronts. The difficulty in engaging with a peer group centred on their home prevents the sort of extended, lifelong, friendships experienced by those who attend their local school, a situation that runs contrary to the idea of the normalisation of the lived experience of those with SEND. Equally, school friendship groups can be impossible to maintain over the significant distances involved in special school attendance.

The notion of less than equal value for those with SEND can be extended to what are called Permanent or Fixed Period Exclusions (FPE) from school. There has been a recent upsurge in the numbers of pupils permanently excluded from school, a significant indicator

of future failure to achieve, and of long term social disadvantage. Recently published figures indicate a 44% increase in these numbers between 2012/2013 and 2015/2016; the number of pupils who experience a FPE shows a similar increase (DfE, 2017). At least in part, this rise can be attributed to schools seeing exclusion as a way of focussing resources on those most likely to succeed academically by removing difficult or challenging pupils. Perhaps the most depressing statistics from the same source are those that show that a pupil with SEND is seven times more likely to be excluded permanently and six times more likely to be subject to a FPE than a pupil without SEND, with almost half of all permanent and FPEs being pupils with identified SEND.

This can be extended to funding. Significant amounts of funding are available to schools, both to support specific children with EHCPs, and generally to support SEND provision within a setting, yet it is clear that parents, teachers, governors and Special Educational Needs Coordinators (SENCOs) often have little understanding of how this money is being spent. This is not new; however, in an economic climate of austerity, and given the often overwhelming focus on the performativity agendas that are discussed exhaustively elsewhere, it is perhaps inevitable that there is an increasing sense of disquiet about the lack of transparency in the way that funding is used. Pragmatic decisions made in increasingly difficult circumstances, about staffing arrangements, Ofsted inspections, national examination results etc., may lead to increasingly compromised decision making, where the needs of the many are more likely to be addressed than those at the margins, as a form of utilitarianism replaces the commitment to social justice and equity that should lie at the heart of the professional values of the teaching profession.

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## REVIEW: Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity

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### PAUL REYNOLDS

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***Roy Bhaskar., R, Danermark, B. and Price, L (2018) Interdisciplinarity and Wellbeing: A Critical Realist General Theory of Interdisciplinarity Routledge Studies in Critical Realism, London: Routledge. pp.173.***

This text attempts to develop a critical realist general theory of interdisciplinarity and explore its application to health and well-being. It is structured into three broad sections. The first chapters provide a short general discussion of the problems arising from current conceptual debates around interdisciplinarity, and an assessment of how it can be justified as a means of conceiving and articulating the social world. This is effectively an exercise in 'clearing the terrain' of extant approaches to interdisciplinarity, focusing on the theoretical problems that limit attempts to move such an approach from aspiration to analysis. The centre of the book is five chapters that articulate a lecture course by Roy Bhaskar - the leading intellectual figure in the development of critical realism - on critical realism and interdisciplinarity from 2009 (credited as being given in Oslo in the preface and Orebro, Sweden in the introduction). They provide a foregrounding for the discussion of interdisciplinarity and wellbeing. This critical realist approach is then applied to issues of health and wellbeing, with the intention of both demonstrating what value it adds to health and wellbeing research, and contributing new insight as to how interdisciplinarity should be understood and used.

The fundamental premises behind the text will be familiar to anyone who has been involved in discussions about how to stretch analysis beyond disciplinary lines without losing rigour and criticality. Claims for interdisciplinarity, and other formulations in the same 'language game' - trans-disciplinarity and multi-disciplinarity (with or without hyphens - I prefer the hyphenated form but will use the format the authors use for this review) - tend to be broadly associated with creativity, criticality and a more nuanced, sophisticated and wider reaching research project. In the rhetoric of scholarship, these claims extend to a wide range of very different and disparate approaches to research. Whilst this diversity might itself be a condition of stepping beyond disciplines, there is a general sense that it more reflects some rather undertheorised, inconsistent and unreflective approaches. 'Imagination' is achieved by 'recognising' different disciplinary approaches, which can amount to drawing magpie-like from different disciplines or their vocabularies, in a superficial and variable way that makes the reading of interdisciplinary studies a 'pick and mix' of sophistication and frustration. Part of the debate has drifted down an entirely unproductive dichotomisation of 'stale and rigid disciplinarity' against 'absences of thoroughness, coherence and discipline in argument and analysis in interdisciplinarity'.

Hence the claims of this text are to develop a critical realist approach that provides ontological and theoretical underpinnings and schematisations to ensure interdisciplinarity does not become a synonym for undisciplined eclecticism. A critical realist approach avoids 'unilinear reductionism, addictive atomism, and naive eclecticism' (p.1) in order to develop an approach that is able to engage critically, as only interdisciplinarity can, with 'the open-systems character within which practically all events occur' (p.2).

The (perhaps too short) first section of the text draws what it sees as the main features of interdisciplinarity as currently manifest in the literature: the driving forces that motivate it; definitional debates; its failures to meet its claims; its personalistic approach; institutional and organisational issues and bibliometric issues. It then dwells on a seventh feature that underlies all of them, which is that the pervasiveness of disciplinarity precedes interdisciplinary work and as such supplants needed philosophical and theoretical debate at a metatheoretical level, and often prescribes self-limiting approaches to moving beyond a disciplinary focus. This sets up the need for critical realism to fill the void.

Whilst this is a logical approach to framing the absence in order to prescribe the solution, it is ironically short on surveying the literature and does not provide a contextualisation of the development of interdisciplinary approaches over the last forty years and the different factors - institutional, political, intellectual, within and between theoretical traditions - that have brought us to this point. One simple observation - Marxist, feminist, anti-racist and disability traditions of thinking have at their foundations different forms of critique of disciplinarity as an intellectual and institutional construct, but this is hardly acknowledged. The 'absence', then, is by no means as absent as they suggest, and there is work to be done mapping these different analyses and laying out the terms of debate around disciplines and their borderlines. One of the most important antecedents to interdisciplinarity in the last 70 years was the 'cultural turn' from the 1950's where cultural theory and analyses developed in the social sciences and social and political analyses took increasing prominence in the arts and humanities - yet there is no sense of considering these developments.

The middle of the book is Bhaskar's lectures on critical realism, articulated principally by Price in textual form. This gives rise to a reflection on the composition of the text, which is by no means as coherent as Danemark and Price would suggest, and it does raise the question of how to pursue this sort of writing project. Danemark and Price had both collaborated with Bhaskar to different degrees prior to his death in 2014, and they shared a common focus on a critical realist approach to interdisciplinarity. The composition of the text reflects a process of taking Bhaskar's lectures and building context and application around them. Danemark and Price then share the attribution to the remaining chapters noting that Bhaskar has completed his contributions to the introduction and conclusion, and 'commented on early versions, or at least the outlines, of these chapters' (p. viii).

Undoubtedly, the inclusion of unpublished and unfinished work by Bhaskar will generate a wider audience, but it is not clear how far it benefits or compromises the focus of the text. For example, the written articulation of Bhaskar lectures might be of interest of themselves and edited alongside other unpublished lectures and be of interest in the way Foucault's *College De France* lectures have become indispensable sources for Foucault scholars. They would also be valuable, as in Price's articulations here, in avoiding the criticism of Bhaskar's

writing that it is often overly complex to the point of incomprehensibility.<sup>13</sup> Could the authors have acknowledged their debt to Bhaskar differently? There is little doubt Routledge would see the value to their series and to a purchasing audience of Bhaskar as author, but as it is, this approach does produce a text of three distinct and disjointed parts. The lectures have a value as a presentation of Bhaskar's general ideas, but do not join coherently with what is before or after.

The final essays have their own problems. Ironically, wellbeing is discussed very much as 'health and wellbeing' and in the context of a health paradigm. This completely overlooks a substantial and emergent body of literature that takes an interdisciplinary approach to conceiving well-being in relationship to what has come to be framed as 'happiness industries' and 'wellbeing' projects within late capitalist markets and institutions, or philosophical debates around flourishing, or post-humanist, nomadic, phenomenological and Deleuzian explorations of the affective and embodied as well-being.

Their discussions do raise questions about how we should explore issues such as: placebo effects and healing; the architecture of processes and classifications of medical conditions; the notion of interdisciplinarity in institutional provision; and the operation of epidemiology through the example of HIV. That said, there are literatures both within and across disciplines that raise the issues that are not covered effectively here, and that challenge the constitution of medicalised discourse within health institutions and the benefits of multi-agency team working in instantiating (with various degrees of success) interdisciplinary discussion. Whilst they make a point of referring back to the vocabulary of critical realism to underpin the value of their claims, it is no means clear how critical realism *distinctively* adds critical value. Indeed, the text reads more as if the authors are trying to draw together threads of past work and packaging them to develop a coherent and sophisticated engagement with the subject matter. That effort is not persuasive. This does not diminish the value of some sharply observed critical comments on the topics they discuss, but the sum of parts does not leave a whole that provides what it claims - a general theory of interdisciplinarity played out and

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<sup>13</sup> See [http://www.denisdutton.com/bad\\_writing.htm](http://www.denisdutton.com/bad_writing.htm) and Bhaskar's honourable mention in 1996

illustrated through an exploration of wellbeing. That is a disappointment and a missed opportunity.

## REVIEW: Criminology

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### A textbook for the next-generation of criminologists

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**Case, S., Johnson, P., Manlow, D., Smith, R., Williams, K. (2017) *Criminology*, OUP, Oxford. pp. 952 pages.**

This new introductory Criminology textbook is a very welcome core text for both undergraduate students and educational practitioners, in terms of the scope and breadth of coverage of relevant material and the inclusion of significant innovative features. The express aim of the book is to foster active criminologists and create students as producers actively engaged in research, reflective practice and applied agendas. The text offers useful advice and guidance that covers every facet of the student experience, from pre-graduate to induction, to providing the essential study skills and attributes for undergraduate study, research, and employability in the labour market. The exploration of key themes and perspectives in criminology is supported by contemporary illustrations and applications, with selected further readings, activities and weblinks to encourage extended reading, research and scholarly activity. As might be expected for a project of such scope and magnitude, there are some areas of Criminology that are relatively 'underrepresented' or underdeveloped, but the text goes a long way to being all-encompassing. On a critical note, the reviewer was struck by the seemingly uncritical incorporation of the employability agenda, an agenda and discourse which has ostensibly become 'naturalised' (Fairclough, 2014) and largely unquestioned and unchallenged in today's neo-liberal UK HE Institutions. The uncritical use

of employability appears incongruous with a Criminology text that is otherwise explicitly concerned with developing criticality.

Chapter One, of Part One ('Journeying into Criminology') of the new introductory undergraduate textbook 'Criminology' by Case et al (2017), is concerned with the process of 'Becoming a Student' and provides valuable insight into the variety of teaching and learning methods and different modes of assessment that the undergraduate student is likely to encounter. This chapter provides an excellent account of essential study skills, and the authors have effectively produced a HE toolkit that anticipates and captures the minutiae of the undergraduate experience. Not only does this chapter provide a technical manual and support guide for study, but it also acts as a useful and empowering navigational aid, charting and mapping the institutional terrain and the social and cultural processes of becoming a successful student and beyond. Crucially, and this is a key feature of the text throughout, there is a great emphasis on the development and application of critical analysis to relevant material. Students can sometimes lack an understanding of how to treat relevant material analytically, and the book is able to provide guidance on how to hone and practice these vital skills.

Part Two of the text ably introduces the key principles and central dynamics of criminology as an undergraduate subject. This includes an excellent chapter (6) that provides a useful and accessible introduction to the potentially challenging area of research methods in criminology, including a detailed and critical discussion of the subjectivity-objectivity debate, epistemological, practical and ethical considerations, and the strengths and limitations of different research methodologies. This part of the text focuses on how criminological knowledge is constructed and contested, how we know what we know about the world and how we define what is 'researchable', with an acknowledgment that knowledge-making is, in part, reliant on questioning normative assumptions and critiquing the status quo.

This is followed by a discussion of significant substantive topics, including crime and the media, hate crime and victimology, youth offending and youth justice, race-ethnicity and crime and criminal justice, gender and feminist criminology. Throughout, key concepts are clearly explained and complex ideas made accessible and understandable. Arguably, the inclusion of cybercrime under the topic of crime and the media could have been more

developed, perhaps deserving of a separate chapter. As the authors acknowledge, the criminological investigation of cybercrime is in itself now a vast area of criminological research and perhaps more space could have been dedicated to the understanding of cybercrime and the difficulties in policing the net. However, to its credit, the text does offer a useful introduction and gateway to the topic, which signposts some key debates and authors in the field.

The section on gender and feminist criminology gives a very good account of the emergence of feminist criminology, its socio-political context, and its contributions to academic criminology and impact on criminal justice policy. The authors recognise how feminist criminology has subsequently evolved to include examinations of the relationships between crime and ideas of masculinity. This subsection could have benefited from a more developed discussion of sexualities and queer theory and gender identities that do not conform to narrow heterosexual norms. It would have been useful to bring together the diffuse, cross-disciplinary literature that examines a range of research questions around the law, crime and LGBTQ sexualities. These concerns could have been consolidated and located in a subsection that reflected a more fully theorised, self-consciously 'queer' criminology. However, the authors do explore elsewhere the criminological research that explicitly considers and includes the criminalisation and decriminalisation of sexualities constructed as 'deviant', the differential enforcement of the law when applied to members of sexual minorities, the policing of queer sexualities and queer spaces, and the classification of homophobic violence as a hate crime. Overall, the chapter offers an excellent account of the development of feminist scholarship in critical criminology and the large and varied body of theoretical and empirical research that it embodies. The book is also very impressive when examining contemporary strands of critical criminology, including green criminology, crimes of the powerful, convict and cultural criminology. Particularly impressive here is the material on cultural criminology, which neatly captures its interdisciplinary approach and demonstrates how it creates possibilities for thinking about crime from new perspectives by examining different forms of 'crime media', different ways of conceiving crime, and by examining the way crime is 'represented' in popular culture.

The book, in keeping with its critical approach to material, could have usefully provided a critique of employability, with its normative expectation that the individual can no longer

expect secure and stable employment for life, and that individuals, as ‘entrepreneurs of the self’ (McGuigan, 2014), must be prepared and mobilised for an itinerant career developing ongoing portfolios with a variety of employers. A critical pedagogical approach might view this focus on employability as being an integral feature of ‘The New Spirit of Capitalism’ (Boltanski and Chiapello, 2007), practicing a subtle and effective means of governance, social control and exploitation, as increasingly students/ employees are responsabilised and their identities disciplined. The employability agenda was debated and criticised at its inception, by both academics and politicians, being viewed by some as an “unworkable theory” (Boltanski and Chiapello, 2005), yet since that time it has become increasingly dominant, driven perhaps by the recent economic crisis, deteriorating conditions in the labour market and neo-liberal projections regarding the future of work. Employability has rapidly become an integral component of the new university agenda, to the point where courses that do not sufficiently embed employability at their core are deemed endangered. As employability gains in legitimacy and becomes increasingly ‘naturalised common sense’ (Fairclough, 2014), it is perhaps easy to lose sight that it is a neoliberal project that devolves responsibility for economic successes and failures in the labour market, making people believe that it is due to their individual deficiencies that they can't gain employment and ‘optimise themselves’ (Earle, 2011), rather than the structural failings of the capitalist labour market. Critical criminologists can seek to challenge these developments and develop counter-hegemonic pedagogical strategies and narratives.

A ‘positive’ interpretation of employability would view the exact calculability and predictability in the social environment, that formal rationalization brings about, as potentially empowering students by helping them understand and navigate through the complex web of institutions in order to realize the ends of their own choice, thereby giving them structure, identity, meaning and recognition. Chapter 30, ‘Journeying into employability and careers’, can be seen as increasing student’s ability to calculate, predict and determine the outcomes of their actions, and therefore have more control and autonomy over their learning and their lives. However, freedom, autonomy and agency can be seen as being curtailed when the micro-processes of the student experience and institutional life are so closely administered and calculable. The increasing vocationalisation of the curriculum and

instrumentalisation of knowledge and learning threatens to stifle individual initiative, subjective values, substantive rationality, serendipity and critical autonomy, in a universe where things can only be done through standardised procedures.

This core introductory text is a very welcome addition to the format, for both students and teachers. There are identifiable areas that could have been further developed, and the reviewer has argued that a more critical approach could have been taken towards employability. However, the book on the whole offers a lively, lucid, insightful, accessible, understandable, engaging, rigorous and relevant introduction to criminology. Links are consistently made throughout between criminological theory, research, criminal justice policy and practice, and wider historical, cultural, social, political and geographical contexts. Concepts, ideas, arguments, theories and perspectives are creatively synthesised throughout. The book itself serves as a model for thinking criminologically and represents a significant and very welcome contribution to the field which will serve to broaden and develop the criminological imagination.

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