



THE UNIVERSITY *of* EDINBURGH

## Edinburgh Research Explorer

### Facing an uncertain future

curricula of dualities

**Citation for published version:**

Anderson, C & McCune, V 2013, 'Facing an uncertain future: curricula of dualities', *The Curriculum Journal*, vol. 24, no. 1, pp. 153-168. <https://doi.org/10.1080/09585176.2012.753847>

**Digital Object Identifier (DOI):**

[10.1080/09585176.2012.753847](https://doi.org/10.1080/09585176.2012.753847)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Peer reviewed version

**Published In:**

The Curriculum Journal

**Publisher Rights Statement:**

This is an Accepted Manuscript of an article published by Taylor & Francis Group in Curriculum Journal on 28 Feb 2013, available online at: <http://www.tandfonline.com/10.1080/09585176.2012.753847>.

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



## **Facing an Uncertain Future: Curricula of Dualities**

**Charles Anderson**, and **Velda McCune**, *University of Edinburgh*

*In press, The Curriculum Journal*

### **Abstract**

This article considers how best to conceptualise higher education curricula in a world marked by uncertainty, where knowledge and the foundations of knowledge are strongly contested. We then draw on conceptions of agency that derive from socio-cultural theorising to consider what ‘tools’ for thinking and practising individuals may need to deploy if they are to engage with a fast-changing world. The article highlights the large challenges that students may face in developing the forms of being and the orientations to knowledge associated with an age of supercomplexity. The concluding section, *Curricula of dualities*, addresses the question of how best to achieve curricula and pedagogic practices in higher education that may enable students to embark on an open-ended journey from their present ways of knowing and being. We contend that curricula for an age of uncertainty can be productively conceptualised in terms of pairs of contrasting elements that are in creative tension, e.g. play and discipline, support and challenge. Conceptualising curricula in such a way allows students’ present circumstances and orientations *and* their possible futures to stay in central focus.

**Key words:** higher education; curriculum; student learning; pedagogy

## Introduction

### *Conceptualising the higher education curriculum in an age of uncertainty*

However intense current debates may be over the definition of curricula and their purposes, there is a common appreciation that curricular enquiry needs to take account of the challenges that students may experience in an age marked by uncertainties and discontinuities. The current article addresses the question of how best to conceptualise the higher education curriculum in an age of uncertainty for students and lecturers alike. We understand curriculum here in the inclusive sense promulgated by Whitson (2010) as ‘the course of experience in which human being comes to form’ (p. 83). Following Whitson we view curriculum not only as:

... *communicating* the tradition (including the “subjects, a structure of socially prescribed knowledge, or a complex system of meanings” that Maxine Greene [1971] was referring to) through *learning and cognition*, but also – more generally and fundamentally – as continually *(trans-)forming human being* anew. (p. 84; italics in original)

Thus, in common with writers such as Barnett (2004), whose vision of higher education in an age of supercomplexity we examine closely in a following section, we take an ‘ontological turn’ to thinking about higher education curricula. However, we argue that it is important not to focus exclusively on the uncertain future that graduates may face. Our purpose in this article is to engage with some of the questions that arise when one attempts to keep in focus the *past* histories that students bring with them, their *present* experience of higher education, (rooted in specific learning communities within particular institutions), and its relationship to an envisaged *future*. In other words we argue that there is a need to avoid a foreshortening of time perspective to the future alone. We wish to

consider how higher education curricula may need to be shaped by lecturers to assist students to make the voyage from their present ways of being to a future marked by uncertainties and multiple, fragmented ways of knowing.

*Structure of the article*

To take this agenda ahead, we examine first in the next section constructions of future uncertainty, raising questions concerning the degree of supercomplexity that many graduates may be able to display in their future professional lives, and noting the threat posed to a creative unsettling of thought and attitude by the invasion of regimes of performativity.

Attention then moves to consider what ‘tools’ individuals may need to deploy if they are to exhibit an agentic engagement with a fast-changing world. Here we draw on conceptualisations of agency that derive from socio-cultural theorising that seem particularly apposite for this purpose, in particular the work of Wertsch (1991, 1998) on ‘mediational means’ (Wertsch, 1991, p. 12) and Holland *et al.*’s (1998) studies of ‘figured worlds’ (pp. 41-43). In taking ahead this discussion of matters concerning agency and identity, we

- consider the knowledge practices that characterise current learning communities in higher education and the orientations towards knowledge that may be expected of students, and
- highlight the large challenges that students may face in developing the forms of being and the orientations to knowledge associated with an age of supercomplexity.

Building on the arguments that have been pursued in preceding sections, the section, *Curricula of dualities*, addresses the question of how best to achieve curricula and pedagogic practices in higher education that may enable students to embark on an open-

ended journey from their present ways of knowing and being. We contend that curricula for an age of uncertainty can be productively conceptualised in terms of pairs of contrasting elements that are in creative tension, e.g. play and discipline, support and challenge. Conceptualising curricula in such a way allows students' histories, present circumstances and orientations *and* their possible futures to stay in central focus.

### **Resolutely facing an uncertain future**

In the last decade a number of influential scholars have argued that in the face of the uncertainties and instabilities associated with a global networked society, its forms of communication and its pluralist knowledge practices, there is a need for a radical reorientation of the goals of education and the curriculum of schools and of higher education. This radical reorientation asks for pedagogical practices and a curriculum that focus on enabling learners to develop dispositions and forms of being that will allow them to face the challenges of a future marked by uncertainty. This 'ontological turn' can be found, for example, in the work of Kress (2000) who argues that 'the coming era demands an education for instability' (p. 133) and that 'the new demands [of this age of instability] are at bottom demands for a different kind of social subject' (p. 138). He gives a 'designing', agentic learner a central place in the school curriculum, redefining 'the goal of education as the making of individual dispositions oriented towards innovation, creativity, transformation and change' (p. 141).

In higher education, a clarion call for an ontological turn has been sounded by Ron Barnett (2000, 2007, 2011; Barnett and Coate, 2005) albeit one with subtly modulated notes. The main thrust of Barnett's argument is encapsulated well in his 2004 article, 'Learning for an unknown future', where he notes how 'Amid supercomplexity, *the*

*educational task* [of universities] *is primarily an ontological task*. It is the task of enabling individuals to prosper amid supercomplexity, amid a situation in which there are no stable descriptions of the world' (2004, p. 252; italics in original). One might add that this ontological task appears even more challenging if one considers not only how individuals, but also whole communities and societies, may prosper in such conditions. Barnett points here then not only to the uncertainties engendered by the speed and intensity of change in the modern world (p.248) but also to those deriving from the 'multiplication of incompatible differences of interpretation' (p. 249) that he subsumes under the term supercomplexity – a supercomplexity that he views as intrinsic to the university's nature and purposes (pp. 249-50). In this state of affairs, the university's responsibility can be seen to involve disturbing 'students with strangeness' (Barnett, 2011, p. 124), with generating epistemological uncertainty (p. 124), while at the same time fostering the capacity of students to live with uncertainty and openness, 'to prosper in such a world' (Barnett, 2004, p. 252). Flourishing as an authentic being in such circumstances requires the cultivation of dispositions, such as 'carefulness, thoughtfulness, humility, criticality, receptiveness, resilience, courage and stillness' (Barnett, 2004, p. 258). Barnett goes on to observe that:

The achievement of qualities such as these calls for a transformatory curriculum and pedagogy which are themselves understood to be and practised as endeavours of high risk; high risk not just for the participants but also for the academic staff in their educational roles. (Barnett, 2004, p. 260)

Setting out our stance towards Barnett's vision of 'learning for an unknown future', we welcome the way in which it foregrounds ontological questions that have not always

received sufficient attention in the higher education literature. However, at the same time we wish to introduce some cautionary notes concerning the *tight coupling* of an ontological turn with the representation of an uncertain future. Barnett's vision offers to free us from curriculum discourses such as those of 'generic skills' (Barnett, 2004, p. 256) which bring conformity and constrict design; and can be seen as a means of escape from the imposed routines and inauthenticity associated with a culture of performativity (Lyotard, 1984). Yet, in fixing our eyes on an uncertain future, there is a danger that we are less attentive to the immediate circumstances of our students and to the ways in which their needs are being met. Also arguing for an ontological turn, (albeit one not directed to an uncertain future), Mann (2001, pp. 7-8) observes that 'although in higher education we may be aiming for the development of critical being – for personal engagement, inclusion and lifelong learning – the research findings suggest that we may not always be achieving this.' There is a need also to scrutinise the grounds on which Barnett's vision of the future rest and crucially to ask *whose* future will be marked by uncertainty.

#### *Which future: whose future?*

Barnett's vision of 'learning for an unknown future' challenges complacent assumptions concerning, and narrowly-focused perspectives on, higher education curricula and pedagogies. It incisively represents key features of the early 21<sup>st</sup> century *Zeitgeist*, thereby expanding the horizon of reflection on the purposes and processes of teaching and learning within universities.

At the same time, however, it is important to recognise that what he provides us with is a *vision*, not, to borrow a term from Yannow (2000, p. 248), a 'mirrored reflection' of the contemporary social world. Indeed one could even argue that his vision in common with

conceptual schemes such as Bauman's portrayal of 'liquid modernity' (2005) to a certain degree at least are constitutive of the reality that they describe. Consonant with the whole notion of supercomplexity itself, a different social analysis and epistemological stance might lead to a distinctly different narrative and characterisation of the learner's forms of being.

While not quarrelling with the broad contours of the social analysis on which Barnett's vision rests, we would wish to introduce a few cautionary notes relating to his account. A historian in commenting on an epoch may often face the difficult interpretive task of deciding whether to highlight qualitatively distinct discontinuities or elements of continuity and stability within a perceived pattern of change. There is a danger that in focusing on radical discontinuities that propel us into an unknown future one then gives insufficient attention to countervailing patterns of continuity in individual lives, disciplines, higher education institutions and wider collectivities. As a related point, keeping in sight the histories that students bring with them to university alerts us to the multi-diversity of the contemporary student population; a diversity which can be neglected if one only attends to a vision of a future radically disconnected from the past. In addition, it is clearly necessary to avoid sleep-walking into the position where the learning history and cultural heritage of individual students are viewed simply as impediments to progress towards a bright, homogeneous future.

It is also pertinent to ask what proportion of our graduates will in fact be required to be creatively shape-shifting professionals in their future careers. Watts (2008, p. 151) notes how 'students coming from non-traditional backgrounds ...may find the labour market less rewarding than they had been expecting (Wolf, 2002; DTI, 2003) – particularly with the notion of graduate-level employment redefined as any job done by a graduate (Harvey, 2000).'



Barnett himself avoids resting the case for cultivating forms of being that will allow students to flourish in an age of uncertainty on a market-driven rationale. He observes that the dispositions that he wishes universities to foster:

will have economic and performative value. But that cannot be the educational justification for designing curricula and engaging in pedagogies that are likely to sponsor the formation of these dispositions. They are to be fostered because they offer the prospects of an education adequate to a world of uncertainty. They offer, in short, the fashioning of being that may thrive in such a world. (Barnett, 2004, p. 259)

While strong arguments can be advanced for adopting the telos of creatively unsettling students and enabling them to live in, and with, this uncertainty, there may not be a ready consonance between this radical unsettling and the world of work that many students will face after graduation which may be one of unchallenging routine rather than demands for innovation and self-transformation. In other words, the foundations of Barnett's call for a particular ontological fashioning of students may need to rest less on predictions concerning the demand for shape-shifting professionals. However, as a following subsection entitled *Local/international* highlights, the future for all of us in a planet marked by diminishing resource, climate change and associated conflicts is likely both to be very uncertain and to pose 'supercomplex' ethical dilemmas.

At the same time, this focusing of attention on fostering particular forms of creative and resolute being in students would seem to be particularly necessary as a counter-force to discourses of learners as 'consumers' and to the homogenising, instrumental effects of pressures towards performativity (Lyotard, 1984). These pressures can be viewed not only

as operating on university lecturers, but also as impacting on students themselves. As Smith (2003, p. 321) pithily notes:

The student, say, who wants to ‘get to the answers as quickly as possible without all this theory’ is not simply short of knowledge: he is recognisably in the grip of the assumptions of performativity, from which a certain type of teaching can offer him release.

In the following section, we address the question of what resources students may need to escape the grip of these assumptions and to brave an encounter with uncertainty. Within an ‘ontological turn’ to thinking about higher education questions of agency very much come to the forefront, both in terms of how to theorise agency and in terms of how it may best be fostered. We turn now to address these questions by drawing on conceptions of agency that derive from socio-cultural theorising to consider what ‘tools’ for practising and being individuals may need to deploy if they are to engage with a world of challenging changes.

### **Agency and ‘meditational means’**

If one is to foster a fully agentic, designing learner of the kind that Kress (2000) calls for, clearly some thought needs to be given to the matter of exactly what such agency exercised in a higher education context may entail. An approach to understanding agency that seems to be particularly apposite to this endeavour can be found in the work of Wertsch (1991, 1998). Wertsch, researching within the sociocultural approach to learning and development that derives from the writings of Vygotsky and Bakhtin, focuses on action as the fundamental unit of analysis (1991, p. 8). He argues that ‘human action

typically employs “meditational means” such as tools and language, and that these meditational means shape the action in essential ways’ (1991, p. 12). On this view, ‘the agent of mediated action is seen as the individual or individuals *acting in conjunction with mediational means*’ (1991, p. 33; italics in original). The thrust of this conceptualisation of action and of learning brings to the forefront in any discussion of agency the cultural ‘toolkit’ that is made available to a learner. In appropriating a particular cultural tool, an individual may appropriate aspects of its power (1991, p. 138).

It is important to note, however, that Wertsch does not view the individual’s encounter with these tools in terms of a straightforward process of acquisition and assimilation. Drawing on the work of deCerteau (1984), Wertsch recognises that these cultural tools ‘are not neutral cognitive instruments existing outside relations of power and authority’ (Wertsch, 1998, pp. 146-147). He observes that ‘mediated action always involves an irreducible tension between a cultural tool and an agent’s use of it’ (1998, p. 98). In addition, the process of gaining facility in the use of a tool may not be free from conflict: ‘cultural tools are often not easily and smoothly appropriated by agents. Instead there is often resistance’ (1998, p. 54).

From this socio-cultural perspective then the knowledge, skills, and indeed dispositions, of an ‘agentic’ learner can be viewed as interdependent and evolving facets of socially and culturally constructed worlds, rather than reified commodities which can be readily deployed. The creative unsettling of students’ ways of being advocated by Barnett would seem to entail a fundamental shift in their understanding of, and stance towards, knowledge itself (Barnett, 2011, p. 122); and the *means to* act on knowledge in analytical and questioning ways. This in turn can be seen to require that students are assisted to participate in the practices that are implicated in the creation, representation, validation, interpretation and critique of knowledge within specific domains (Anderson and Hounsell,

2007, p. 475). The knowledge of these specific domains will be interwoven with particular communicative practices and genres of representation (Anderson and Hounsell, 2007, p. 472) and students will be expected to develop a particular *epistemological orientation* towards a domain's knowledge and knowledge-making procedures (Anderson and Hounsell, 2007, p. 469).

The foregrounding of *knowledge practices* in the preceding paragraph brings into attention the need for knowledge and skills to be given their due weight within any 'ontological turn' in university-level learning and teaching. As we have argued, knowledge needs to be seen here not as a commodified product but as a relational process of knowledge-making where students encounter specific practices in particular contexts – an encounter that may be marked by struggle, and even resistance.

Research studies we have been involved in, for example, McCune and Hounsell (2005) and McCune (2009) on the development of learning in the biosciences, also demonstrate the lengthy nature of this process of knowledge-making, with final-year students still working towards more sophisticated perspectives on what was involved in developing legitimate knowledge and understanding within the biosciences. Even in the final year of their undergraduate programmes these students were only gradually coming to develop the forms of agency which would allow them to understand themselves as sufficiently legitimate participants that they could reasonably offer critique of the published literature. This shift in agency seemed to rest particularly on the opportunity to have experiences of authentic engagement in the practices of professional scientists in contexts such as work placements. We will return in the final section to this key matter of the time that needs to be allowed for changes in knowing and being to take place.

Focusing in more closely now on forms of being, Holland *et al.* in *Identity and Agency in Cultural Worlds* (1998) give an account which resonates with Wertsch's writings viewing

semiotic mediation as ‘a tool of agency’ (p. 38). They state that ‘these tools of agency are highly social in several senses: the symbols of mediation are collectively produced, learned in practice, and remain distributed over others for a long period of time’ (p. 38). Their work sees the formation of identities and the development of agency as dialectically formed as individuals experience ‘figured worlds’ (p. 49), i.e. particular socially and culturally constructed realms of interpretation (p. 52). They also give central importance to positionality, to the way in which the position that a person occupies in a social field enables or constrains her or his possibilities for self-authorship (p. 44, pp. 271-272). This conceptualisation of self-making highlights the need ‘to look at the sites and practices in which identities and selves are formed and to consider that the existence of a transcendent self – a self that is independent of content – is contingent upon the existence of cultural resources’ (p. 223). This quotation prompts the question: what resources do we provide students for the making of a more resolute self and the cultivation of the dispositions of ‘carefulness, thoughtfulness, humility, criticality, receptiveness, resilience, courage and stillness’ (Barnett, 2004, p. 258)? Are students positioned in ways that encourage these forms of self-authoring, or not?

It is also important to be alert to the magnitude of the changes that we may be asking of many students if they are to refashion themselves to learn for an unknown future. In his study of the mental demands of modern life and of the reflective and reflexive perspective-taking that these demands call for, Kegan (1994, p. 351) observes that: ‘More people can be appropriately challenged by the postmodern curriculum when there are more people who have mastered the mental demands of modernism.’ Coolly cognitive discussion of the development of dispositions can also deflect attention from the felt experience of emotional upheaval that may accompany transforming one’s sense of self.

## **Curricula of dualities**

We turn now to consider how higher education curricula and pedagogic practices may assist students to develop new epistemological orientations and transform their ways of being. In considering how best to conceptualise what may be involved in the creation of curricula that foster movement and change, our principal thesis is that there is a need to keep a creative tension between different curricular goals and pedagogical actions. We contend that curricula for an age of uncertainty can be productively conceptualised in terms of pairs of contrasting elements that are in creative tension, for example, play and disciplined engagement, support and challenge. Representing curricula in such a way allows students' present circumstances *and* their possible futures to stay in central focus. It also creates possibilities for supportive attention to how students' learning histories may shape their capacity to engage with the challenges presented by disturbance of their world views. Research with mature students from under-represented groups, for example, shows how their learning histories bring both particular forms of resilience and strong engagement with learning acting in interplay with experiences of fragility which mean that the balance between support and challenge is highly significant (Gallacher *et al.*, 2002; McCune *et al.*, 2010).

These pairs of contrasting elements need to be seen not as polarities in straightforward opposition with each other, but, (following Wenger's lead in avoiding dichotomous representations of learning and social practices), as 'dualities' (Wenger, 1998). In his 1998 monograph, Wenger defines a duality as: 'a single conceptual unit that is formed by two inseparable and mutually constitutive elements whose inherent tension and

complementarity give the concept richness and dynamism' (p. 66). He is at pains to point up that: 'There is a fundamental difference between using a distinction to classify things (e.g., meanings, thoughts, knowledge, learning) as one pole or the other and using a distinction to describe an inherent interplay' (p. 68). Thus, in using the term dualities, he distances himself from a dualistic representation of knowledge and from dichotomous schemes of representation where elements are in direct binary opposition to each other.

Applying this concept of *dualities* to higher education curricula and pedagogic practices allows us to see curricula not as settled arrangements driven by sets of discrete goals, but as more dynamic phenomena where there is a need for lecturers to seek an appropriate, yet ever-shifting, balance between the terms within individual dualities.

To make these points more concrete, Table 1 tentatively identifies a number of dualities that may need to be taken into account if we wish to enable and encourage students' voyaging into the future, to foster the development of the particular kinds of self-formation that Barnett and others advocate. This identification of some key dualities in higher education curricula may serve to prompt readers to identify other dualities that are particularly salient in their own disciplinary/professional area and institutional context.

Insert about here Table 1.

### *Support / challenge*

Looking first at the duality of *support* and *challenge*, Kegan (1994) notes how in '*Coaching the Curriculum: A Bridge Must be Well Anchored on either Side*' (p. 37). He observes that in creating an effective context for moving ahead to meet the epistemological and ontological demands of modern life it is essential to attend closely and continuously to both terms of this duality of support and challenge. In his own words:

... people grow best when they continuously experience an ingenious blend of support and challenge ... Environments that are weighted too heavily in the direction of challenge without adequate support are toxic; they promote defensiveness and constriction. Those weighted too heavily towards support without adequate challenge are ultimately boring; they promote devitalization. Both kinds of imbalance lead to withdrawal or dissociation from the context. In contrast, the balance of support and challenge leads to vital engagement. (p. 42)

While it is easy enough baldly to present this duality, clearly, (as we know from our own experience as university teachers and have learnt from our failures), achieving and constantly recalibrating the balance between support and challenge can be seen as one of the most taxing demands of the art of teaching.

*Situated connection / facing outwards*

Turning to the pair, *situated connection/facing outwards*, the contrasting elements that need to be kept in play can be stated quite simply. How can a sense of felt connection within a learning community be fostered and students given a sense of engagement in a joint enterprise? At the same time how can one ensure that this community does not become insular and exclusive, with its horizons confined by the (real or virtual) walls of a college? How can students be encouraged to look outwards and forwards to the future from a secure base?

*Local / international*



A separate duality, *local/international* brings into central focus the way in which a curriculum engages with local and wider cultures. A strong case can be developed, particularly in social sciences and humanities subjects, for the need for connections with local contexts, cultures and values to avoid a deracinated curriculum. At the same time it is clearly necessary that curricula are not limited to, and by, these contexts in a world that is multicultural and where scholarship in many fields is transnational.

Of relevance here is the stress that Nussbaum (1997) places on the development of the 'narrative imagination' (pp. 10-11). She notes how: 'Cultivating our humanity in a complex, interlocking world involves understanding the ways in which common needs and aims are differently realized in different circumstances.' This entails not only gaining knowledge concerning cultures different from the student's own, but also growing the imaginative capacity to appreciate, albeit not uncritically, the meanings and experiences of individuals who occupy a very different cultural, spatial and social location from oneself (Nussbaum, 1997, *passim*). Such narrative imagination is viewed by Nussbaum as 'an essential preparation for moral interaction' and compassion (1997, p. 90). The form of being that Nussbaum wishes to foster among students includes both empathic, imaginative engagement with differently located actors *and* reflective detachment, as the following passage indicates:

[compassion] requires, in turn, a highly complex set of moral abilities, including the ability to imagine what it is like to be in that person's place (what we usually call empathy), and also the ability to stand back and ask whether the person's own judgement has taken the full measure of what has happened. (p. 91)

Nussbaum's work thus points up the importance of cultivating an expansive sense of self and connection with others that moves beyond the confines of one's immediate setting.

A different set of moral concerns surrounding the local and international arises when one considers what is an appropriate higher education for an age beset by great uncertainties about the future of the planet's environment. Some scholars such as Prakash (1995) have responded to these uncertainties by inveighing against 'the unsustainable lifestyle of global citizens "educated" for uprootedness' (p. 329). She observes that: 'Today's upwardly mobile graduates possess the attitudes and skills of a "resident": "a temporary and rootless occupant who mostly needs to know where the banks and stores are to plug in" [Orr, 1992, p.102]' (p. 329).

She argues that in contrast to these 'residents' leading ecologically unsustainable lives, there is an imperative to develop ecologically literate 'dwellers' who think and act locally 'on and off campus' (Prakash, 1995, p. 333). While this emphasis on a rooted, sustainable localism strikes us as being a very valuable corrective to current trends, it can also be seen as a somewhat one-sided view of what is at stake in education for an uncertain environmental future and to create too dichotomous a distinction between the local and the global. Fostering a sense of stewardship for a locality can be combined with an analytical engagement with global environmental issues and an appreciation of the intricate interconnections between local change efforts and large-scale social forces. Reasoning about environmental issues and action is also likely to involve the supercomplexity, the 'multiplication of incompatible differences of interpretation', that Barnett, (2004, p. 249) has identified, and very testing ethical dilemmas relating to competing world views. Both the local and the international aspects of environmental education present academics and students alike with a potentially very taxing but absorbing and exigent curriculum.

*Disciplined engagement / play*

A university education demands that students display focused, sustained intellectual engagement, whether this be attentively following a mathematical proof or close reading of a literary text, along with the kinds of disciplining of the self that these intellectual activities entail. Acquiring such habits of disciplined engagement can be seen to be a preparation for working lives that will call for attentiveness and the disciplining and monitoring of self. Yet one can argue that if forward movement and self-authoring are to be encouraged, this disciplined engagement needs to be counterbalanced by opportunities for brainstorming and playing with ideas, for trying on different beliefs and testing out different values, etc. If one does not give due weight to playfulness in higher education, there is a danger that a grim earnestness can mark the way in which students' ontological development is talked about.

It is also important to note that for some social theorists play is seen as central to the development of identity and the trying out of new selves. On this theme, Holland *et al.* (1998, p. 236) note that:

Play is also the medium of mastery, indeed of creation, of ourselves as human actors. Without the capacity to formulate other social scenes in imagination, there can be little force to a sense of self, little agency. In play we experiment with the force of our acting otherwise, of our projectivity rather than our objectivity.

*Shaping / enabling*

The *shaping* and *enabling* functions of curricula and pedagogic practices can be seen to be intricately intertwined. In their roles as teachers and as ‘gatekeepers’ for a discipline, lecturers need to shape students’ activities by introducing them to a domain’s ‘mediational means’ (Wertsch, 1991, p. 33) and leading them to construe topics and problems through the lenses of these mediational means. Students are expected to adopt a particular *perspectivity* on the phenomena that they are studying (Rommetveit, 1990). While these might be viewed as constraining actions, this shaping and framing of students’ efforts at the same time provides them with a cultural ‘tool-kit’ that allows them the possibility of developing competence, and a sense of their own capacity, in a particular subject or professional domain. As we have observed in our earlier discussion of Wertsch’s account of agency and ‘mediational means’, in appropriating a particular cultural tool, an individual may appropriate aspects of its power (Wertsch, 1991, p. 138). A closely connected relation between shaping and enabling may also be evident where students are ‘enabled’ in the sense of university education widening out the horizons of their projects for self; and here university lecturers can challenge and support the development of new interests, a sense of one’s voice and new directions for self-authoring.

While the ‘mediational means’ that students encounter at university may open up new possibilities for agency and self-hood, we have noted that straightforward appropriation of these cultural tools cannot be assumed. If alienation from, and unproductive struggles with, the new ways of thinking and being that they are exposed to in higher education are to be minimised it would seem necessary to follow Holland *et al.* (1998) in giving central attention to positionality. Is power exercised in ways that are likely to enable rather than constrain students’ projects of self-making? Are they encouraged to develop their own ‘voices’, and are these voices accorded respect? Do they have some choice over the projects and topics that they can pursue, and are they backed to engage with areas of

investigation that grab their interest and imagination? Close attention to how students' past histories shape their imagined future trajectories is required here if students' projects of self-making are to be genuinely enabled. Mature students, for example, can have a particularly rich understanding of the meaning and relevance of their future studies which is grounded in their perspectives on how their current studies relate to their past and present work roles and the future trajectories which have been imagined based on these past experiences (McCune et al., 2010). Enabling teaching thus needs to support students to find a cultural 'tool-kit' which is meaningful in relation to their past histories and guide students to make connections between novel mediational means and their prior experience.

### **Lecturers' engagement with students**

The preceding sections have focused on how students are positioned within a curriculum, but the question also arises of what forms of being, and inter-being with students, we need to exhibit as university lecturers if a curriculum of dualities is to be pursued. What dispositions and qualities do we need to embody to aid students to engage with new practices of knowledge and self, rather than resist them or feel incapable or alienated?

Wenger (1998, p. 276) has argued that when teachers represent their specialist areas with 'lived authenticity' they bring a vivifying, engaging character to the teaching encounter. In preceding work we have noted instances where 'students indicated that their efforts were energized by their lecturers' display of evident passion for their discipline and commitment to teaching' (Anderson *et al.*, 2006, p. 260). Returning to Mann (1991), she suggests that if we wish to avoid students feeling alienated and to foster their engagement and development we need to make at least five responses, to provide: solidarity, hospitality, safety, redistribution of power, and criticality (pp. 17-18). She recognises

though that these responses are demanding ones in the conditions that characterise modern universities, leading us to add the virtue of courage to her list. Courage to challenge and develop one's own way of being and responding to others is required of lecturers as well as students as we grapple with an uncertain future.

### **Coda**

In this article we have closely examined the 'ontological task' (Barnett, 2004, p.252) that universities face in preparing students to live in a world of contesting knowledge claims and to meet a future marked by uncertainties. Turning the spotlight on how students can be assisted to face an uncertain future in a resolute fashion brings into focus questions of agency; and we have set out an approach to theorising agency and to thinking about how to foster agency that is consistent with an 'ontological turn' to conceptualising higher education curricula. We have also argued that knowledge and skills need to be given due importance within any 'ontological turn' in higher education curricula, and attention directed towards the cultivation of particular epistemological orientations towards knowledge and knowledge-creation. In wrestling with the question of how best to conceptualise curricula that will foster the dispositions for reflective engagement with a world marked by uncertainties, our central thesis has been that creative tension needs to be maintained between different curricular goals and pedagogical actions. One of the key advantages of a *curriculum of dualities*, envisaged in terms of pairs of contrasting elements in creative tension, is that it avoids a foreshortening of time perspective to students' imagined futures. It allows students' learning histories, present circumstances and ways of engaging with learning and their possible futures to stay in view.

While such a curriculum of dualities may assist students to form new ways of knowing and being, it is important to be alert to the magnitude of the changes that may be asked of some

students, and to the time that needs to be allowed for such fundamental changes to take place. Keeping in view the timescale over which developments may take place suggests that we require to pay more than lip-service to ‘progression’ over the course of an undergraduate degree, thinking through both how demands can be carefully staged up over the years of a degree and how a sense of coherent progress can be facilitated.

## References

- Anderson, C., Day, K., Michie, R., Rollason, D. (2006). Engaging with historical source work: Practices, pedagogy and dialogue. *Arts and Humanities in Higher Education*, 5(3), 243–263.
- Anderson, C. and Hounsell, D. (2007). Knowledge practices: ‘Doing the subject’ in undergraduate courses. *The Curriculum Journal*, 18(4), 463–478.
- Barnett, R. (2000). *Realizing the University in an age of supercomplexity*. Buckingham: Society for Research into Higher Education and Open University Press.
- Barnett, R. (2004). Learning for an unknown future. *Higher Education Research and Development*, 23(3), 247–260.
- Barnett, R. (2007). *A will to learn: Being a student in an age of uncertainty*. Maidenhead: Society for Research into Higher Education and Open University Press.
- Barnett, R. (2011). *Being a University*. London and New York: Routledge.
- Barnett, R. and Coate, K. (2005). *Engaging the curriculum in higher education*. Buckingham: Society for Research into Higher Education and Open University Press.
- Bauman, Z. (2005). *Liquid Life*. Cambridge: Polity Press.

- deCerteau, M. (1984). *The practice of everyday life*. (S.F. Rendall, Trans.). Berkeley: University of California Press.
- DTI (Department for Trade and Industry). (2003). *Tackling the low skills equilibrium*. London: DTI.
- Gallacher, J., Crossan, B., Field, J. and Merrill, B. (2002). Learning careers and the social space: Exploring the fragile identities of adult returners in the new further education. *International Journal of Lifelong Education*, 21(6), 493–509.
- Greene, M. (1971). Curriculum and consciousness. *Teachers College Record*, 73(2), 253–270.
- Harvey, L. (2000). New realities: The relationship between higher education and employment. *Tertiary Education and Management*, 6 (1), 3-17.
- Holland, D., Lachicotte, W., Skinner, D., Cain, C. (1998). *Identity and agency in cultural worlds*. Cambridge, MA: Harvard University Press.
- Kegan, R. (1994). *In over our heads: The mental demands of modern life*. Cambridge, MA: Harvard University Press.
- Kress, G. (2000). A curriculum for the future. *Cambridge Journal of Education*, 30(1), 133–145.
- Lyotard, J.-F. (1984). *The postmodern condition*. (G. Bennington and B. Massumi, Trans.). Manchester: Manchester University Press.
- McCune, V. (2009). Final year biosciences students' willingness to engage: Teaching-learning environments, authentic learning experiences and identities. *Studies in Higher Education*, 34(3), 347–361.
- McCune, V. and Hounsell, D. (2005). The development of students' ways of thinking and practising in three final year biology courses. *Higher Education*, 49(3), 255–289.



- McCune, V., Hounsell, J., Christie, H., Cree, V. E. and Tett, L. (2010). Mature and younger students' reasons for making the transition from further education into higher education. *Teaching in Higher Education*, 15(6), 691–702.
- Mann, S.J. (2001). Alternative perspectives on the student experience: Alienation and engagement. *Studies in Higher Education*, 26(1), 7–19.
- Nussbaum, M. C. (1997). *Cultivating humanity: A classical defense of reform in liberal education*. (Cambridge, MA: Harvard University Press.
- Orr, D. (1992). *Ecological literacy: Education and the transition to a postmodern world*. Albany: State University of New York Press.
- Prakash, M. S. (1995). Whose ecological perspective? Bringing ecology down to earth. In W. Kohli (Ed.), *Critical conversations in philosophy of education* (pp. 324–339). New York: Routledge.
- Rommetveit, R. (1990). On axiomatic features of a dialogical approach to language and mind. In I. Marková and K. Foppa (Eds.), *The dynamics of dialogue* (pp. 83–104). London: Harvester Wheatsheaf.
- Smith, R. (2003) Thinking with each other: The peculiar practice of the university. *Journal of Philosophy of Education*, 37(2), 309–323.
- Watts, M. (2008). Higher Education and Hyperreality. In P. Smeyers and M. Depaepe (Eds.), *Educational research: The educationalization of social problems* (pp. 141–155). Dordrecht: Springer.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.
- Wertsch, J.V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University Press.
- Wertsch, J.V. (1998). *Mind as action*. Oxford: Oxford University Press.

Whitson, J.A. (2010). Curriculum as semiotic formation: From signifying discourses, to the formation of human being. In I. Semetsky (Ed.), *Semiotics education experience* (pp. 83–98). Rotterdam: Sense Publishers.

Wolf, A. (2002). *Does education matter? Myths and education and economic growth*. London: Penguin.

Yannow, D. (2000). Seeing organizational learning: A ‘cultural’ view. *Organization*, 7(2), 247–268.

**Table 1 Curriculum Dualities****Support****Challenge****'Home', sense of situated  
connection****Openness /  
outward-facing****Local****International****Disciplined engagement****Play****Shaping****Enabling**