

From wise humanising creativity to (post-humanising) creativity

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Abstract

This chapter demonstrates that the concepts of creativity in education put forward to date can only go so far in addressing the rapid, unpredictable changes inherent in the 21st century and the accompanying policy and practice challenges we face. The chapter shifts away from conceptualisation such as ‘wise humanising creativity’ and proposes a different articulation of creativity which may allow us to think about and action creativity to meet these challenges. This (post-humanising) creativity overcomes problems of humanistic conceptualisations as it allows for a full range of ‘players’ within the creative process, it incorporates a different, emergent take on ethics and is willing to see the future too as emergent, rather than always ‘to-be-designed’. The chapter culminates by offering examples of (post-humanising) creativity in action, aiming to bring alive how it can address our policy and practice dilemmas.

Introduction

Creativity in education has been proposed as a means to address the rapid, unpredictable changes inherent in the 21st century (e.g. Craft, 2013, Facer, 2011). These changes bring myriad educational policy and practice challenges, which include: technological integration and its implications (e.g. Craft, 2011; Loveless, 2007); the tension between ‘education as relation’ and ‘education as transmission’ (e.g. Biesta, 2004); and questions of environmental sustainability (e.g. Sterling and Huckle, 2014). These challenges are couched in a context of increasing marketization (Craft, 2013) and, certainly in areas of the west, in “an intense form of neo-

liberalism” (p.5) which emphasises “markets, competition and choice” (p.11, Hall and Gunter, 2016). In this chapter I would like to demonstrate that the concepts of creativity in education put forward to date can only go so far in terms of addressing the challenges we face. I am proposing a different articulation of creativity, one influenced by the posthuman turn, which may allow us to think about and action creativity to meet the challenges. I will argue that a posthuman take on creativity overcomes problems of previous humanistic conceptualisations because it allows for a full range of ‘players’ within the creative process, it incorporates a different, emergent take on ethics and is willing to see the future too as emergent, rather than always ‘to-be-designed’.

And so, in this chapter, I discuss (post-humanising) creativity. I take as my starting point Wise Humanising Creativity (WHC), an idea which I co-developed with the late Professor Anna Craft between 2011 and 2013 (Chappell, 2008, 2011; Craft, Gardner and Claxton, 2008; Chappell with Craft, Rolfe and Jobbins, 2012; Craft, 2013). This was applied and developed further between 2013 and 2017 via studies of early years arts education (Chappell, Pender, Swinford and Ford, 2016), and European studies of technology in education (e.g. Walsh, Chappell and Craft, 2017; Stenning, Schmoelz, Wren, Stouraitis, Scaltsas, Alexopoulos and Aichhorn, 2017; Chappell, Walsh, Schmolz, Wren, Kenny and Sotoriuas, 2017; Schmoelz, in press) and science education (e.g. Craft, Ben Horin, Sotiriou, Stegiopoulos, Sotiriou, Hennessy, Chappell, Slade, Greenwood, Black, 2014; Ben-Horin, Chappell, Halstead and Espeland, 2017).

Moving on from this research, I consider how both WHC and the accompanying humanist takes on policy that WHC aims to address are challenged by the ‘posthuman turn’. In so doing I argue that when theorizing creativity in education we must maintain an awareness of ethics and embodied dialogue. However, in the context of the policy and practice dilemmas we face, it is important to move beyond humanly-centred understandings of creative actants. This leads me to argue for a more inclusive way of characterizing ethically driven creativity in education as post-humanising. This is significant because it may offer us (all actants) the chance to use a new way of theorizing and acting to break the cycle of human actants alone failing to creatively respond through policy and practice to rapid 21st century changes. (Post-humanising) creativity has the potential to break this cycle, firstly because it actively incorporates the other-than-human actants that are often the source of rapid change, and by so doing, better acknowledges their engagement as influential within the creative process. And secondly (post-humanising) creativity allows for emergent ethics from embodied creative dialogue which flows directly from the creative situation in hand. This means that the ethics of creativity are relevant and generated by the intra-action of all parts of the community, rather than allowing human dominance.

Towards the end of the chapter I offer brief examples of (post-humanising) creativity in action in cross-arts practice, digital education and interdisciplinary arts-science education. These aim to bring alive how post-humanising creativity can potentially address the policy and practice dilemmas articulated above. Finally, I consider the possible new future research which might ensue, using (post-humanising) creativity to respond to the policy and practice issues and dilemmas we face.

What is Wise Humanising Creativity?

It is important to understand WHC as one of many perspectives on creativity. These range from the cognitive, psychological and play-based, to rhetorics of creativity as social good, as democratic and political, as romantic lone genius and as technologically connected (Banaji, Burn and Buckingham, 2010). WHC was developed because of a dissatisfaction with existing creativity in education rhetorics (Chappell, 2008) and a desire to develop a way of talking about creativity that more dominantly incorporated ethics. WHC came from blending Humanising Creativity (Chappell, 2006, 2008, 2011; Chappell et al, 2012) and Wise Creativity (Claxton, Craft and Gardner, 2008; Craft, 2005). Chappell and Craft with Rolfe and Jobbins (2011) and Craft (2012) proposed WHC as a theory of creativity in education that was able to challenge existing marketised neo-liberal creativity rhetorics. Thus, we argued that WHC could address calls for developing creative approaches to education which could help young people respond to rapid economic, technological and social change. In this section I will explain the integration of the humanising and the wise within WHC.

Chappell et al (2012) articulated how embodied dialogue is the driver of the creative process within Humanising Creativity and Craft (2012) drew on this when articulating WHC. This dialogue happens via conversations between the inside and the outside (inside-out and outside-in), attending to the ‘space in between’ or the Chiasm (Merleau Ponty, 1964). We drew on Briginshaw’s (2001) writing to articulate an ambiguous space of interaction which contains the potential for opening up new possibilities. The “potency of the inside/outside interface” (p.18) allows for different

views to interrelate from inside and outside the body, and provides transformative “potential for new world views” (Bahktin, as cited in Briginshaw; p.18). I especially emphasised that this dialogue needs to be recognized as embodied, as shared action and ideas which are grounded in our bodies individually, collaboratively and communally (Chappell et al, 2012). In order to support this, I incorporated understanding of Reid’s (1980) ‘knowing this’ or felt knowledge as a necessary way of knowing alongside Ryles’ (1949) more well-known conceptions of ‘knowing that’ and ‘knowing how’.

Through this generative, embodied dialogue, I argued (2012) that creators are ‘making and being made’; they are on a ‘journey of becoming: developing their identities as they develop creative ideas. The ‘humanising’ process derives from being conscious that embodied creative ideas have impacts on individuals and communities which can be defined by human values and which need ethical consideration (Chappell, 2008; Craft et al, 2008). I found Shusterman’s (2008) insights here especially helpful, as he reminds us that: “our body constitutes an essential fundamental dimension of our identity... our dynamic symbiotic selves are constituted by relations with others” (p. 2). Drawing on Dewey, he states that:

we are not self-sufficient agents...the relational self acquires and deploys its powers only through its enabling relations...we are...charged with caring for and harmonising the environmental affordances of our embodied selves (p. 214)

I therefore saw (and evidenced through empirical enquiry) creativity as generated by an inside-out/outside-in dialogue which impacted on all layers of identities (Chappell et al, 2012). This was characterized as a journey of becoming within which all creators need to be alert to the ethicality of our actions.

The wise element of WHC derives from Craft et al's (2008) book debating creativity, wisdom and trusteeship. This is framed by Craft's early theorizing (e.g. Craft, 2000) which strongly incorporated Maslow's (1987) humanist idea of self-actualisation, integrated with Gardner and Claxton's (2008) psychological takes on the ideas. The authors of this seminal tome were clear that creativity in education cannot be "value-neutral" and that we must consider it in relation to "human virtues" (p. 3). In this vein, they begin by drawing on Baltes and Staudinger (2000) to offer two basic criteria: "rich factual knowledge of human nature and human life course; rich procedural knowledge of possibilities for engaging with life problems"; and Baltes and Stange (2005) to offer three metacriteria of wisdom: "life span contextualism; value tolerance and relativism; knowledge about handling uncertainty" (Craft et al, 2008, p3-4).

They encourage us to think about wisdom held by trustees, suggesting that cultures need wise individuals who others can look up to and learn their culture's ethics from (Gardner, 2008). We drew a number of their final suggestions (Claxton et al, 2008) into our understanding of the 'wise' within WHC. Firstly, wisdom is likely to be situated within the group or collective process. And secondly, wisdom and creativity need to be considered from a more systems driven perspective. So, they argue that "we are midi-systems in constant reverberation with the hierarchy of megasystems and minisystems" (Claxton et al, 2008, p171). These points about wisdom complement

humanising creativity's focus on the communal and the need to care for and harmonise the environmental affordances of our actions. Thirdly they suggest that we require "Good creativity and wise action [to] emerge...custom-made responses to the momentary big picture, not interventions based on...an attempt to apply the predetermined rule book of ...technical rationality" (opcit, p171). Again, WHC incorporates this idea that good creativity and wise action should be allowed to emerge from people's responses to their situation.

Our development of WHC was therefore grounded in two streams of research, brought together to counter neo-liberal, marketised rhetorics of creativity. These rhetorics are driven by the capitalist imperative of innovation for the sake of its capacity to generate income, and allow little space for contemplating creativity's ethics. We positioned embodied dialogue at the heart of creativity; we acknowledged the impact of creative action through 'making and being made'; and we argued for responsiveness to the environmental affordances of our creative actions in education. We incorporated the idea that creative ethics should be driven by rich knowledge of human nature, life issues, and value tolerance held by trustees; and that creative wisdom is situated within communities and wider systems, and as being allowed to emerge from people's responses to their situation (Chappell et al, 2011; Craft, 2012).

So far so good?

So far so good, surely? But as WHC has been applied in a variety of research initiatives in the UK and Europe, despite seeing it offer a strong at-scale framework for creative teaching and learning research and enactment (e.g. Walsh et al, 2017; Craft et al, 2014; Ben-Horin et al, 2017; Stenning et al, 2016; Chappell et al, 2017;

Schmoelz, in press), I find myself questioning it. And I do this in the absence of my colleague Anna Craft, so I ask you to read what follows with that in mind. For me, the theory needs re-appraisal and development in order that it can accommodate relevant new posthuman thinking, and in order that as a theory it is able to more actively contribute to solving educational policy and practice issues and dilemmas.

The central WHC tenets of embodied dialogue and becoming resonate with posthuman arguments such as Barad's (2003) that we need to think of the world and everything in it as 'becoming' through different fluid identities and subjectivities. However, the idea of the journey of becoming's ethics as humanising is unseated by the posthuman argument against the human as dominant, as caring for other-than-humans and as seemingly 'in control'. WHC's inclusion of trusteeship is also challenged by the argument that ethics are personified by particular people.

It is not that the arguments for considering the ethics of creative action are no longer relevant, or are wrong. It is that they now appear grounded in a false over-prioritization of the 'human' with their roots stretching back into Craft's early (e.g. 2000) arguments for self-actualisation, and in Craft et al's (2008) human-centred cognitive psychology take on wisdom.

Chappell et al (2012) attempted to distance humanising creativity from outright connection to humanism, by citing arguments from Gray (2002) which push for a less arrogant, human-centred, even, at times, more animalistic take on idea-generation; and by actively prioritizing the word 'humanising' rather than the wider theoretical root of 'humanism'. We also see Claxton et al (2008), as above, emphasizing our

position as humans within wider ‘megsystems’, arguing for wise action based in custom-made responses to the momentary big picture; in the same volume Knoop also argues that we need “a greater sense of connection to the natural and material worlds” (p172). Their arguments were timely and groundbreaking in 2008, and were sincerely developed by Craft and Chappell into WHC. However, for me now, none of this goes far enough. As long as the human remains dominant, and is viewed as having the capacity to take control of and solve problems, we will not be able to apply the theory to creatively respond to the educational policy and practice challenges of rapid 21st century change. This is because we are not fully acknowledging the partiality of our human perspective or that other-than-humans have strong influences beyond our control.

In light of this, WHC needs rethinking to ensure that it offers a sustainable, responsive theoretical framework for the policy and practice of 21st century creativity in education.

Responding to challenges from posthumanism

Other-than-human actants

Rather than stating that we should think about the wider system as just context, New Materialist theorists (e.g. Barad, 2003; Braidotti, 2013) take a bolder step and argue that objects and environments are actually actants. This shifts us away from a socio-constructivist humanly superior view, which also implies that particular humans are more superior/human than others, and emphasizes instead the importance of seeing humans and objects as embodied and enmeshed. WHC clearly emphasises that humans are embodied but I want to argue that we need to include and recognise

objects and environments as embodied and therefore as enmeshed within the creative process too. Within this ‘enmeshing’ it is important to understand Barad’s point that “things do not have inherently determinant boundaries” (p812-813). The boundaries between ‘people and people’ or ‘people and objects’ are not as clear cut as we might think from a socio-constructivist perspective. Barad (2003) stresses that she is not letting go of the idea of being human, but that she sees humans as

phenomena...beings in their differential becoming, particular material re-configurings of the world with shifting boundaries and properties that stabilize and destabilize along with specific material changes in what it means to be human (p818)

For me, this suggests that ‘who’ creates is a less important question than how do ‘we’ (in the broadest sense) create? Barad (2003) also refers to what she calls ‘intra-action’ as opposed to inter-action because intra-action does not depend on pre-existing bound entities, and more actively incorporates the enmeshed agencies of all the different kinds of bodies involved. This offers opportunities for new understandings of creativity which acknowledge spaces, environments and objects as contributors to the creative process, rather than simply seeing them as context. While WHC argues for creativity as spread between the individual, collaborative and communal layers of human relationships, this solely refers to the human actants. If objects and environments are collaborators and are enmeshed within communal intra-action, we need to recognise a more dispersed kind of creativity resulting from enmeshing.

This enables us to think more broadly about embodied dialogue as the creative driver.

A dialogue between the inside-out and outside-in of less-boundaried human bodies, ideas, objects and environments becomes less partial, (whilst still acknowledging partiality), and allows more perspectives and actants into the creative process, leading to a richer set of possible new ideas. In turn, the ‘becoming’ of identities/ subjectivities, which is reciprocally intertwined within the creative process within WHC, is then more dispersed than individualized. WHC already draws on Moje and Luke (2009) to argue for identity as quilted and fluid and this resonates with Barad’s (2003, p828) reliance on Kirby (1997), who states that “identity is inherently unstable, differentiated, dispersed and yet strangely coherent”. By thinking of creative process as embodied dialogue which is dispersed and enmeshed across a broad range of intra-actants, we (in the broadest sense) have a greater chance of creatively addressing policy and practice challenges of technology, relationship and sustainability, and thereby living with rapid change. We might be able to enter into ‘becoming’ in relation to that change, because we are actively incorporating its sources within our creative activities.

Emergent Ethics

If we see creativity and becoming as dispersed ‘beyond the human’ in this way, it follows that the related ethics will be similarly dispersed and will be manifested and articulated differently to WHC’s ethics and wisdom, and to the ways that ethics is considered in the ‘humanly-conceptualised’ policy and practice that WHC has interacted with. Writing from a posthuman perspective, Braidotti (2013) refers to a “radical ethics of transformation” where “to be posthuman does not mean to be de-humanised”. While some scholars (e.g. Horkheimer, 1952) have historically already

rejected the ‘idolization of the self-gloating I’, for posthumanists this does not go far enough. For Braidotti, it is that the ethical bond is different to the self-interests or even collective-interests of humanism’s subjects, who argue for extending (human) rights to all “species, virtual entities and cellular compositions” (p189 – 190). She states that there is an “enlarged sense of interconnection between self and others including non-human or ‘earth-others’ [which] requires rejection of self-centred individuals” (opcit, p47). She goes on to argue that this gives us a “new way of combining self-interests with the well-being of an enlarged community, based on environmental interconnections”, using a “partial form of accountability based on a strong sense of collectivity, relationality and hence community-building” (opcit, p48), which importantly includes the other-than-human.

Craft et al’s (2008) ideas on wisdom, on which WHC relies as part of its ethical framework, do go beyond a purely self-centred, individual ethical perspective through their acknowledgement of collectivity (e.g. Claxton et al (2008) on megasystems; Knoop (2008) on the connection to the natural and material worlds). I can find some common ground here with posthuman arguments for agency and the embedding of creative action within a dispersed community. However, the kind of agency, systems and trusteeship put forward by the 2008 authors overall, still keeps the human as dominant, and because of this cannot meet Braidotti’s expectation that subjectivity and the accompanying ethics are relational and are developed through multiple belongings in and by multiplicity. The ethics and wisdom in this 2008 volume do not go far enough because they maintain a partial human perspective at their core.

So, if the ethics of WHC should shift to become the ethics of (post-humanising) creativity, what does this mean? Ethics generated by relational subjectivity comes from embodied and enmeshed actants. The concerns of all actants are therefore part of the ethics, rather than one group of actants dictating the ethics for the collective. MacCormack (2012) is helpful here. She argues that

posthuman ethics asks not what the posthuman is, but how posthuman theory creates new, imaginative ways of understanding relations between lives...ethics is a practice of activist, adaptive and creative interaction which avoids claims of overarching moral structures (p1)

To achieve this, she repositions the body not to be seen as something to be received or merely for representation, but as the source of posthuman existence and encounter. Here she uses the term 'body' in its broadest sense and urges us to understand the relationship between all kinds of bodies and how they affect each other. The accompanying emergent ethics therefore incorporates the embodied other-than-human. Similarly, Miller (2014) discusses an 'ethics of relationality', urging us to understand our commonalities with all others through empathy. As I have argued above, embodied dialogue is the driver of the creative process. As this dialogue between the inside and outside of bodies, ideas, objects and environments ensues, it brings in all actants' perspectives, which then contribute to the emergent ethics of the situation. What, in WHC, was seen as a humanising process of becoming, defined by humanly driven ethics and wisdom, shifts to being a (post-humanising) becoming, the ethics of which is fully dispersed amongst actants, is relational and grounded in empathy per se (for human and other-than-human). A dispersed responsibility for

ethics offers us a stronger basis from which to attempt to address our policy and practice issues through creative approaches.

(Post-humanising) creativity

And so I have generated the idea of (post-humanising) creativity. This maintains embodied dialogue at its heart, but brings in objects and environments as embodied, agentic and enmeshed actants. This pushes us to think about how we ‘intra-act’ to create in a more dispersed way rather than to dwell on who is authoring and what their products are. In turn, the ‘becoming’ of identity/ies or subjectivities and the emergent ethics which ensue from the embodied dialogue, are more dispersed than individualized and solely human. This shifts us away from trying to impose human ethics frames or competencies onto the other-than-human and encourages us to think about the ethics of creativity as generated by relational empathetic subjectivity from embodied and enmeshed actants. (Post-humanising) creativity therefore provides us with a greater chance of creatively living with rapid changes in, for example, technology, relationships and sustainability, and of ‘becoming’ in relation to those changes, because we are actively incorporating the changes’ sources into our creative activities and the ethics through which we judge them.

I would like to take a moment here to dwell on the role of embodiment. Snaza and Weaver (2014, p4) argue “we don’t know yet what a body can do, nor do we know what beings who are used to thinking of ourselves as ‘human’ are capable of”. They remind us that, despite all the post-structuralist, post-modern rhetorics, unimagined possibilities are still an option because posthumanism allows us to think about the role

of the body and embodiment as enmeshed ‘beyond the human’. This is territory into which it is unlikely we have travelled before.

Coupled with this, I would also like to connect to Osberg (2017) who has mooted the notion of “symbiotic anticipation”. She argues that we need to let new ideas come about through symbiotically anticipating with other actants which generates outcomes which are more than the sum of the parts and needs of the actants involved. This idea is applicable here when thinking about how human and other-than-human actants enmesh in the creative process. For Osberg (2017) there are unimagined possibilities which go beyond anything we can ‘vision’ or ‘extrapolate’ before the creative process begins. Here she is warning us not to try to vision what the unimagined possibilities might be as this curtails us to what we already know. Hence, she argues that we need to become better at being in a state of ‘anticipation’ in order to allow for symbiosis, and for it not to be taken over by human perspectives and visions. I intend to engage with these ideas more in future writing on (post-humanising) creativity, as they show how we might work in a way that allows emergent creativity to happen, and to not limit the future by trying to design it.

(Post-humanising) creativity in action

In order to bring alive post-humanising creativity as a means to potentially address the policy and practice dilemmas articulated in this chapter’s introduction, I would now like to offer brief examples¹, of practices where I can already see the main tenets in action (e.g. cross-arts practices) and situations where I see the potential to use (post-humanising) creativity to develop understanding of creativity (e.g. digital education

¹ All data shared here has full ethical permissions for use in research publications.

contexts and interdisciplinary arts-science practice). In each example, I show how embodied dialogue can be seen as the driver, how other-than-human actants are enmeshed in the creative process and how ethics emerges. Whilst these examples have not, as yet, been researched through a (post-humanising) creativity lens, I am drawing together what I can see, or have seen in action to show the potential for (post-humanising) creativity as a research frame and aid to addressing challenges of technology, relationships and sustainability. I would also like to emphasise that these are not fully empirical accounts, but brief examples which aim to bring alive the main points of this theoretical paper.

Cross-arts example

Between 2014 and 2018 I have been researching creativity within the *Next Choreography* Siobhan Davies Dance (SDD) project for 14 to 21 year-old young people. The fundamental aim of the project is to develop the cohort's knowledge, skills, insight, and experience to create their own unique choreographic work. As Hathaway and Chappell (2017) state the approach is distinct to SDD in that it encourages young people to look beyond dance to the different choreographic processes used by artists across different art forms. Data was drawn from observations, reflective diaries, questionnaires, WHC wheels (see Appendix), and staff and student interviews. Hathaway and Chappell (2017) showed that all the Year 1 young people were on a journey, developing their capacity to work on their own and with others, individually, collaboratively, and communally through dialogue (Chappell, Slade, Phillips et al, 2015). The project's communal approach to studio-based physical dance practice (shown in Figure 1) was seen as key to this (Chappell et al, 2015).



Figure 1: *Next Choreography* participants exploring with objects and materials



Figure 2: *Next Choreography* participants exploring the ideas of ‘Connect and Grow’

Although Chappell et al (2015) and Hathaway and Chappell (2017) were viewing the data through the lens of WHC rather than post-humanising creativity I contend that the embodied dialogue evidenced in relation to WHC can also be understood as indicative of the embodied dialogue at the heart of (post-humanising) creativity described above, if we couple it with evidence for the incorporation of other-than-

human actants (e.g. the objects in Figure 1) and emergent ethics.

If we consider the wider context within which the SDD *Next Choreography* project occurs, I would argue that this evidence exists. Firstly, *Next Choreography*, is obviously framed and embedded within Siobhan Davies Dance's practices. Davies may not describe her practice as posthuman, but there is much in it which gels with a posthuman frame. For example, one of her recent works is entitled Human-Nature, of which Davies says: "We are as much natural material as plants are and it is in our nature to create with all the materials we can reach."² For me this brings in plants and nature as co-actants in a way that fits within a New Materialist understanding of creativity, and which is suited to addressing the challenge of sustainability that we face by creating *with* nature and raising ethical questions drawn from all actants' perspectives. The fact that artists who participate alongside Davies incorporate living plants into their art/dance, as well as technology, emphasizes this point even more. This also resonates with Osberg's (2017) idea of symbiotic anticipation through which an ethics of responsibility needs to be allowed to emerge from the intra-action. In this cross-arts work we find provocations to explore the dynamics of the relationship between plants, people and technology and related issues of conscientious environmentalism. The project website suggests that it "may help you to see nature in a new light". This cross-arts practice does not tell you what to see, but offers exhibitions, talks, workshops and performances which offer the possibility of generating new ideas between all actants (including makers, those who experience the project, nature, humans and technology). As Braidotti (2013, p107) drawing on Deleuze states

² <http://www.siobhandavies.com/work/human-nature/>

art [is] an intensive practice that aims at creating new ways of thinking, perceiving and sensing. By transposing us beyond the confines of bound identities art becomes necessarily inhuman in the sense of nonhuman in that it connects to the animal, vegetable, earthy, planetary forces that surround us. Arts is also ... posthuman by structure as it carries us to the limits of what our embodied selves can do or endure

Whilst the manifestation of embodied dialogue, enmeshed actants and emergent ethics has not been researched in this situation, I have indicated that cross-arts practices connected to both nature and technology such as this provide ripe possible examples of this kind of (post-humanising) creativity in action. In relation to the policy/practice issues we face, this has particular relevance to how we change our thinking enough to really address the challenge of sustainable living within flattened hierarchies where plants take an enmeshed role alongside humans, and indeed technology, and where the resulting art is allowed to emerge between the actants.

Digital Education

C²Learn was a three-year project designing and trialling a digital gaming environment (shown in Figures 3 and 4) that aimed to provide young people with multiple opportunities to engage in co-creativity to foster their WHC.

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Snepvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

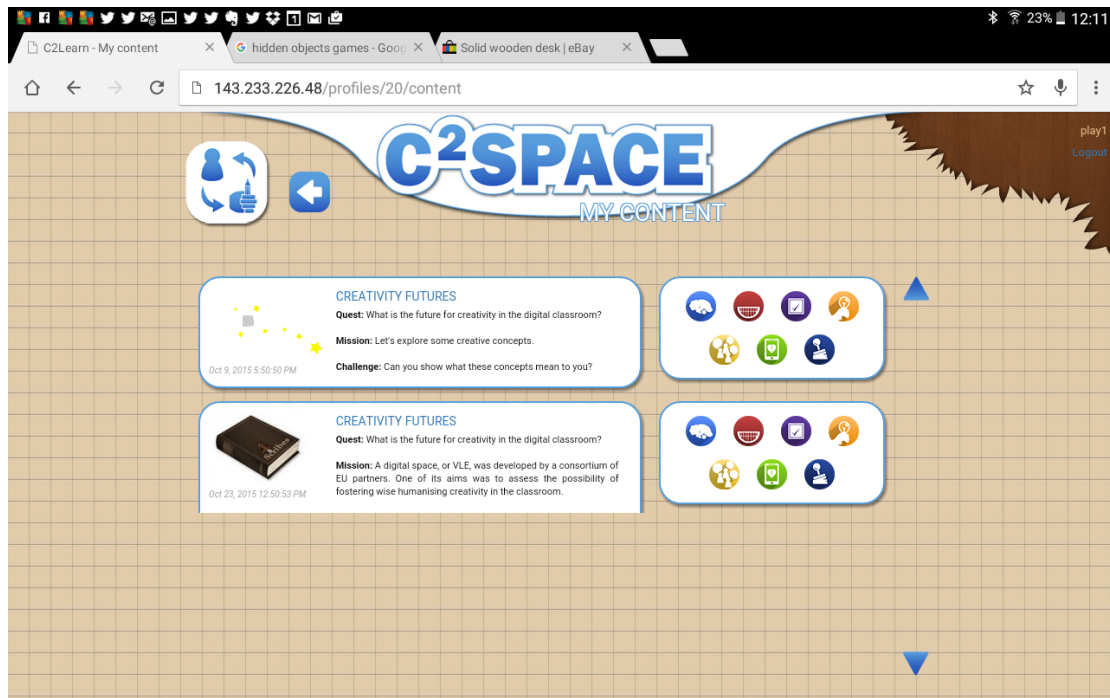


Figure 3: C2Space in action



Figure 4: 4Scribes game mid-game

Walsh et al (2017) presented the digital gaming environment (or VLE), over-arching WHC conceptual framework and evaluation methodology. The VLE was created and trialled with students in England, Greece and Austria and Chappell et al (2017)

reported the projects findings as to how WHC manifested. Data collection tools included interviews, film footage, fieldnotes and the WHC wheel (a precursor to the one used in *Next Choreography*).

Chappell et al (2017) show detailed evidence for 10 – 19 year olds that embodied dialogue was a core part of the creativity taking place in C²Learn activity in all three countries. The article also shows some evidence for ethics within the creative gameplay which was seemingly generated through the ethics implied within the VLE games and those developed by the young players. I contend that this reflects the fact that WHC argues for an ethics which is relevant to the situation in hand, and in this case, came from the VLE having ethical concerns (from Craft et al, 2008) built into its design.

I am left with a range of questions about the C²Learn outcomes and the challenges that we faced as a research team now that I have generated the idea of (post-humanising) creativity. How would ethics develop differently if ethics were designed into the VLE in an even more emergent way? How might both the VLE design and the ensuing creativity be different if we, the researchers, viewed the VLE itself as an enmeshed actant? So, we can see how a posthuman turn on creativity pushes away from perhaps even designing VLEs and content, and suggests that a more fluid approach to technology use in education could be a means to fully incorporate technology itself as an actant.

Osberg (2017), drawing on Jonas, raises fascinating questions about the ethics that ensue from technological situations where we cannot see an end to our actions as they

ripple out in a digital world, what Jonas calls ‘an ethics of long-range responsibility’. How might this kind of understanding of ethics, also informed by Osberg’s new notion of symbiotic anticipation, influence and assist how we think about creativity in digital environments? Whilst C²Learn completed in 2015, there is PhD level enquiry underway which is using (post-humanising) creativity to consider some of these questions. This research may offer opportunities to work emergently to genuinely integrate technology within educational practices, and perhaps in turn, influence policies. It may also offer technologically-based responses to how we develop ‘education as relation’ as opposed to ‘education as transmission’ (Biesta, 2004).

Interdisciplinary arts-science

My final example comes from two interdisciplinary arts-science education projects, which led on one from the other: CREAT-IT (2013-15) and CREATIONS (2015-2018). Both are European-wide science education engagement projects that took place or are taking place in 6 and 11 countries respectively. They were/are designed to use creativity theorizing from our University of Exeter research team, embedded within wider literature reviews and supported by surveys to articulate and apply a set of pedagogic features. These features are intended to bring the arts and sciences together in educational practice to better engage young people in science education.

In both projects one of the features was/is dialogue. In CREAT-IT, dialogue was seen as being “between people, disciplines, creativity and identity, and ideas – acknowledging embodiment and allowing for irreconcilable difference” (Craft et al, 2014, p168). The CREAT-IT project team also gave details of how the features, including this kind of embodied dialogue were manifest in case studies of

interdisciplinary arts-science education (e.g. Write a Science Opera and Science Theatre). Again, the CREAT-IT project viewed the case studies through the lens of WHC rather than post-humanising creativity.

However, the research we are currently carrying out within the CREATIONS project, is occurring simultaneously to the generation of (post-humanising) creativity. So, we are able to incorporate empirical investigation of the role of other-than-human actants in the process, alongside the emergent ethics. In CREATIONS, we have coupled (post-humanising) creativity with Hetherington and Wegerif's (2017) argument that science classrooms should pay more attention to the material-dialogic relationships. If I draw in learning from the cross-arts *Next Choreography* example above, there are clear arguments for researching embodied dialogue, enmeshed actants and emergent ethics within arts-science classroom practice.

We are therefore researching the creativity within CREATIONS practices from a posthuman perspective with the aim that we will be able to provide examples of how (post-humanising) creativity manifests. Figure 5 and 6 show early stage outcomes of one CREATIONS sub-project, the trans-disciplinary action-research programme, parts of which focused on questioning creative practice around natural dyes and plastics recycling, and relationships between iron-filings and paint droplets.



Figure 5: CREATIONS Arts/Science Action Research outcomes including natural dyes/recycled plastic photographs and iron-filings/paint droplets images



Figure 6: Photobook created in Pupil Referral Unit Action Research exploring density and refraction through photography

Already these early stage outcomes show science and arts teachers working together within the posthuman frame to address elements of the sustainability challenge

(“They’ve all got the concept about science and art being interlinked”, Dance Teacher, Cornish School). And in both examples the teachers are pushing against ‘education as transmission’ approaches to work in an emergent way that more strongly reflects ‘education as relation’ (Biesta, 2004): “One of the things which was really important was them having time for that playfulness to explore rather than being taught it before” (Art teacher, Plymouth School).

It is my intention that these three examples bring to life the complex posthuman terminology to demonstrate the potential for the main tenets of (post-humanising) creativity to exist in practice as well as in theory; and in turn to ultimately influence policy.

Conclusion

So, in this chapter, I have shifted from the idea of wise humanising creativity to (post-humanising) creativity in response to challenges from posthuman discourses to both the WHC concept and the policies it was addressing. In so doing, I maintain the imperative of providing an antidote to neo-liberal marketised understandings of creativity in education, detailed in the introduction (e.g. Craft, 2005). (Post-humanising) creativity maintains embodied dialogue and an ethically driven journey of becoming as the theoretical core to the creative process, whilst emphasising both enmeshed intra-action with other-than human actants, and the accompanying dispersed emergent ethics. As detailed in the examples above, this theoretical shift represents a more hopeful means through which we can use creativity to respond to the challenges of technology, relationship and sustainability, three amongst the many that we face in the 21st century. It does so by incorporating the source of rapid change

(including other-than-human actants and related ethics) into how we think about creativity, thus making it more responsive and hopefully more sustainable as a concept.

If I had chosen not to respond to the posthuman challenge to WHC, I (and fellow researchers using the theory) would continually be unseated by rapid change, rather than being able to find a better way to live with it. This reinforces an often-made posthuman point that we need to see our ethical responses as positive collective action, especially from a policy perspective, rather than as grounded in vulnerability, protectionism and fear.

In coming to this conclusion, there are a number of critiques of posthumanism that need addressing. Firstly, when working with posthuman ideas we must not unwittingly colonise the thinking and academic space previously explored and written about by, for example, the arts and indigenous studies. There are many overlaps and connections between arts education theory and indigenous studies, and, posthumanism regarding embodiment, aesthetics and relations with other-than-humans. As I initially begun in academia as an arts education academic, I am hyper-aware that we should acknowledge and celebrate these other studies as part of the existing debate when writing about posthumanism, whilst perhaps placing the emphasis on the posthuman notion of de-centring the human³.

Secondly, it is worth remembering Braidotti's (2013) point that 'posthuman' does not mean 'de-humanised'. Her argument for an ethics of transformation is about taking a

³ I am especially grateful to Fran Martin and Carol Taylor for conversations on this point.

more relational, bottom up view of ethics rather than removing the ethics. In relation to this, the role of the body and embodiment is worthy of extra emphasis, because (drawing on e.g. Snaza and Weaver, 2014) I have argued that acknowledging *embodied* and *enmeshed* intra-actants allows for unimagined possibilities of idea generation and accompanying ethics. Osberg's new idea of 'symbiotic anticipation' as a means to emergence is pertinent here, and I would argue that it can be applied when considering creativity through a posthuman lens, to give space to the as-yet-unimagined possibilities which might help to address our policy and practice challenges.

Looking forward, I have already indicated how (post-humanising) creativity can be used to frame insight and research into cross arts practice, digital education and interdisciplinary arts-science education. A posthuman approach to research, not only pushes us to think about creativity differently, but also the methodologies and methods via which we research it. At the time of writing, posthuman methodologies are emerging (Taylor and Hughes (2016); Bastion, Jones, Moore and Roe, 2016).

Learning from these, and building on my own previous work with colleagues (e.g. Chappell et al, 2012; Chappell et al, 2016), there is a strong case for future research which positions new participants in the role of researcher – for example, with colleagues, I aim to research with young dance artists as partner researchers to seek insight into their perspectives and to bring these into conversation with the wider dance field and environment as co-actants. This in turn will shift how we all think about creativity – an idea itself which is in a constant process of becoming too. If we take a posthuman turn on this we allow that there are possibilities which go beyond our own visions and extrapolations (Osberg, 2017). We can then take an approach to

both creativity and our relationship with the future which is emergent and could allow us to engage in dance policy and practice that incorporates all actants and their implications.

I would like to acknowledge that none of this is easy. Weaver (2014, p192) refers to what he calls “the stubborn remnant of humanism” that is embedded, day to day, in our education system, and which posthuman rhetorics grapple with. One way through this for me is to engage with education colleagues and students as co-researchers, as I have done previously, but to now imbue the foundations of these research relationships with de-centred posthuman understanding. Perhaps this is easier said than done, but if we do not try, Weaver (2014) argues we will remain trapped by humanist assumptions; which in turn I would argue are not conducive to allowing creativity to emerge from the intra-actions of all actants, human and other-than-human.

Finally, Braidotti (2013) fuels my determination to continue with these theoretical, empirical and practical creative explorations. The following statement justifies my arguments for co-participatory research on all levels:

The pursuit of collective projects aimed at the affirmation of hope, rooted in the ordinary everyday micro-practices of everyday life, is a strategy to set up, sustain and map out sustainable transformations. (Braidotti, 2013, p192)

She goes on to say that

the posthuman turn is an amazing opportunity to decide together what and who we are capable of becoming, and a unique opportunity for humanity to reinvent itself affirmatively through creativity and empowering ethical relations

What I am arguing for in this chapter is a notion of (post-humanising) creativity which I think can contribute to this opportunity, whilst acknowledging, as humbly as possible, that I am part of how humans, other-than-humans and our enmeshed ideas are in a constant process of becoming.

Acknowledgements

In writing this chapter, I would like to acknowledge the support and critical friendship of Professor Teresa Cremin, Dr Lindsay Hetherington, Dr Fran Martin, Professor Karen Mattick, Dr Deborah Osberg and Alex Schmoelz. The CREATIONS project was funded by Horizon 2020 Framework of the European Commission, Grant number 665917. The C2Learn project was funded by the 7th Framework Programme of the European Commission Grant Number 318480. The Next Choreography project was funded by the Paul Hamlyn Foundation; with Figures 1 and 2 credited to photographer Pari Naderi.

References

Baltes, P., Stange, A. (2005). *Research project 6. Wisdom: The integration of mind and virtue*. Center for Lifespan Psychology. http://www.mpib-berlin.mpg.de/en/forschung/lip/pdfs/research_project_6.pdf.

Baltes, P. and Staudinger, U. (2000). Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence. *American Psychologist*, 55, 122-136.

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Snepvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

Banaji, S., Burn, A. and Buckingham, D. (2010). (2nd edition) *The Rhetorics of Creativity: A Review of the Literature*. London: Arts Council England.

Barad, K. (2003) Posthumanist performativity: Towards an understanding of how matter comes to matter, *Signs*, 28,801-831.

Bastion, M., Jones, O. Moore, N., Roe, E. (Eds) (2016) *Participatory Research in More-Than-Human Worlds - Routledge Studies in Human Geography*. London and New York: Routledge.

Biesta, G. (2004) Mind the Gap! Communication and the educational relation. In Bingham C. and Sidorkin, A. (eds.) *No Education without Relation*. New York: Peter Lang, 11-22.

Ben-Horin, O., Chappell, K., Halstead, J., and Espeland, M. (in press). Designing Creative Inter-Disciplinary Science and Art Interventions in Schools: The Case of Write a Science Opera (WASO). *Cogent Education*.

Braidotti, R. (2013). *The Posthuman*. Cambridge: Polity Press.

Briginshaw, V. (2001) *Dance, space & subjectivity*. Palgrave: Basingstoke & New York.

Chappell, K. (2006). Creativity as individual, collaborative & communal. In *Proceedings of dance and the Child international conference, The Hague, July 2006*, 42-53.

Chappell, K (2008). Towards Humanising Creativity. *UNESCO Observatory E-Journal Special Issue on Creativity, policy and practice discourses: productive tensions in the new millennium Volume 1, 3*, December 2008

<http://www.abp.unimelb.edu.au/unesco/ejournal/vol-one-issue-three.html> (April, 2011)

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Sneyvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

Chappell, K., (2011). Journeys of becoming: humanising creativity. In Chappell, K., Rolfe, L., Craft, A., & Jobbins, V. (2011). *Close Encounters: Dance Partners for Creativity*, 89-100. Stoke on Trent: Trentham.

Chappell, K. and Craft, A. with Rolfe, L. & Jobbins, V. (2011). Not just surviving but thriving. In Chappell, K., Rolfe, L., Craft, A., & Jobbins, V. (2011) *Close Encounters: Dance Partners for Creativity*, 143-160. Stoke on Trent: Trentham.

Chappell, K., Pender, T. Swinford, E. and Ford, K. (2016). Making and being made: wise humanising creativity in interdisciplinary early years arts education.

International Journal of Early Years Education, DOI:

10.1080/09669760.2016.1162704

Chappell, K. with Craft, A., Rolfe, L. & Jobbins, V. (2012). Valuing our journeys of becoming: humanising creativity. *International Journal for Education and the Arts*. 13, 8, <http://www.ijea.org/v13n8/> (July, 2017).

Chappell, K., Slade, C., Phillips, A. with Aldridge, L and Attfield, L. (2015). Next Choreography Evaluation and Research, Year 1. London: Siobhan Davies Dance.

Chappell, K., Walsh, C., Kenny, K., Wren, H., Schmoelz, A., Stouraitis, E. (in press). Wise humanising creativity: changing how we create in a virtual learning environment. *International Journal of Game-based Learning*.

Claxton, G., Craft, A. and Gardner, H. (2008) Concluding Thoughts: Good Thinking—Education for Wise Creativity. In Craft, A., Gardner, H., Claxton, G. *et al* (2008) *Creativity, Wisdom and Trusteeship. exploring the role of education*. Thousand Oaks: Corwin Press.

Craft, A. (2000). *Creativity across the primary curriculum: framing and developing practice*. London and New York: Routledge Falmer.

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Snepvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. Oxon: Routledge.

Craft, A. (2011). *Creativity and Education Futures: Learning in a Digital Age*. Stoke-on-Trent: Trentham.

Craft, A. (2012). Childhood in a digital age: creative challenges for educational futures. *London Review of Education*, 10, 2, 173–190.

Craft, A. (2013). Childhood, possibility thinking and wise, humanising educational futures, *International Journal of Educational Research* 61, 126–134.

Craft, A., Gardner, H., Claxton, G. et al (2008). *Creativity, Wisdom and Trusteeship. exploring the role of education* Thousand Oaks: Corwin Press.

Craft, A. Ben Horin, O., Sotiriou, M., Stegiopoulos, P, Sotiriou, S., Hennessy, S.,

Chappell, K., Slade, C., Greenwood, M., Black, A. et al (2014). CREAT-IT:

Implementing Creative strategies into Science Teaching, 163-179. In Riopel, M. and Smyrnaïou, Z. (Eds.). *New Developments in Science and Technology Education*.

Switzerland: Springer Link. .

Facer, K. (2011). *Learning futures: Education, technology and social change*. London: Routledge.

Gardner, H. (2008). Creativity, Wisdom and Trusteeship. In A. Craft, H. Gardner, G.

Claxton et al (2008). *Creativity, Wisdom and Trusteeship. exploring the role of education, 49 – 66*. Thousand Oaks: Corwin Press.

Gray, J. (2002). *Straw dogs Thoughts on humans and other animals*. London: Granta Books.

Hall, D. and Gunter, H. (2016) England. The Liberal State: Permanent Instability in the European Educational NPM Laboratory in Gunter, H., Grimaldi, E., Hall, D., and Serpieri, R. (Eds) *New Public Management and the Reform of Education: European Lessons for Policy and Practice*. London: Routledge.

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Snepvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

Hathaway, C. and Chappell, K. (2017). Next Choreography: Transformative potential for young people in choreographic practice. In Exploring Identities in Dance:

Proceedings from the 13th World Congress of Dance and the Child International.

<http://ausdance.org.au/publications/details/exploring-identities-in-dance> (July 2017)

Hetherington, L. and Wegerif, R.B. (2017) *Developing a material-dialogic approach to pedagogy to guide science teacher education*. Journal of Education for Teaching:

International Research and Pedagogy.

Horkheimer, M. (1952) Begriff der Bildung . In: Horkheimer, M. (Hrsg.)

Akademisches Studium; Begriff der Bildung; Fragen des Hochschulunterrichts.

Frankfurter Universitätsreden, Heft 8. Frankfurt am Main, 14 – 23.

Hunter, V. Ed (2015) *Moving Sites: Investigating site specific dance performance*.

London: Routledge.

Kirby, V. (1997). *Telling flesh: The substance of the corporeal*. New York:

Routledge.

Knoop, H. (2008). Wise Creativity and Creative Wisdom. In A. Craft, H. Gardner, G.

Claxton et al (2008). *Creativity, Wisdom and Trusteeship. exploring the role of education, 119-132*. Thousand Oaks: Corwin Press.

Loveless, A. (2007). *Creativity, Technology and Learning – a Review of Recent*

Literature. Bristol: Futurelab.

MacCormack, P. (2012). *Posthuman Ethics: Embodiment and Cultural Theory*.

London & New York: Routledge.

Maslow, A. (1987). *Motivation and Personality*. New York and Cambridge: Harper and Row.

Merleau Ponty, M. (1964), *The Primacy of Perception*, James Edie (ed.), Evanston:

Northwestern University Press.

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Snepvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

Miller, A. (2014). Losing Animals: Ethics and Care In a Pedagogy of Recovery. In N.

Snaza And J. Weaver (2014) *Posthumanism and Educational Research. Routledge international studies in the Philosophy of Education, 104 - 120*. London: Routledge.

Moje, E., & Luke, A. (2009). Literacy and identity: Examining the metaphors in history and contemporary research. *Reading Research Quarterly*, 44 (4), 415-437.

Osberg, D. (2017) Education and the Future: Rethinking the role of anticipation and responsibility in multicultural and technological societies. Handbook of Anticipation. (awaiting page numbers)

Reid, L. A. (1980). Art: Knowledge that and knowing this. *British Journal of Aesthetics*, 20, 4, 329-39.

Ryle, G. (1949). *The Concept of Mind*. London and New York: Routledge.

Schmoelz, A. (in press). Enabling Co-Creativity through Digital Story-telling in Education. Thinking Skills and Creativity.

Shusterman, R. (2008). *Body Consciousness: A philosophy of mindfulness and somaesthetics*. New York: Cambridge University Press.

Snaza, N. and Weaver, J. (2014) *Posthumanism and Educational Research. Routledge international studies in the Philosophy of Education*. London: Routledge.

Stenning, K., Schmoelz, A., Wren, H., Stouraitis, E., Scaltsas, T., Alexopoulos, C., and Aichhorn, A. (2016). Socratic dialogue as a teaching and research method for co-creativity? *Digital Culture & Education*, 8, 2, 154-68.

Sterling, S. and Huckle, J. (2014). *Education for Sustainability*. Oxford: Earthscan.

Taylor, C. A. And Hughes, C. (2016) *Posthuman research practices in education*. London: Routledge

Walsh, C., Chappell, K., Craft, A. (2017). A co-creativity theoretical framework to foster and evaluate the presence of wise humanising creativity in virtual learning

Chappell, K. (2018). From wise humanising creativity to (post-humanising) creativity. In A. Harris, P. Thomson & K. Snepvangers Creativity Policy, Partnerships and Practice in Education. Palgrave Macmillan.

environments. *Thinking Skills and Creativity*, 24, 228-241.

Weaver, J. (2014). To what future do the Posthuman and Posthumanism (re)turn us to: Meanwhile, how do I tame the lingering effects of humanism? In N. Snaza and

Weaver, J. (2014) *Posthumanism and Educational Research. Routledge international studies in the Philosophy of Education*, 182-194. London: Routledge.