

Steps to a Manifesto for Imagination & Creativity in Higher Education

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Note from the Executive Editor

In order to do justice to the numerous individual manifestos being contributed, we have decided to split CAM #13 into two separate magazines: Section 13A, the Facebook discussion papers and summaries of each discussion, and Section 13B, the individual draft manifestos. The discussion remains open on Facebook, so further contributions are welcome.

Thank you to everyone who has taken part in this invaluable exercise and to Simon Rae for his vibrant cover design.

Jenny Willis

FOREWORD

Developing Creativity in Higher Education 2.0

Mihaly Csikszentmihalyi



Mihaly Csikszentmihalyi is the Distinguished Professor of Psychology and Management at Claremont Graduate University. Quoting his Wikipedia page - He is noted for his work in the study of happiness and creativity, but is best known as the architect of the notion of flow and for his years of research and writing on the topic. He is the author of many books and over 120 articles or book chapters. Martin Seligman, former president of the American Psychological Association, described him as the world's leading researcher on positive psychology. In his seminal work, Flow: The Psychology of Optimal Experience, he developed his theory that people are happiest when they are in a state of flow—a state of concentration or complete absorption with the activity at hand and the situation. It is a state in which people are so involved in an activity that nothing else seems to matter [it] is an optimal state of intrinsic motivation, where the person is fully immersed in what they are doing... Your whole being is involved, and you're using your skills to the utmost."

Fourteen years ago I was invited to write a Foreword for a book¹ in which I set out the case for why higher education needed to take more seriously the creative development of learners alongside their broader academic development. I was reminded of this by Norman Jackson the editor of that book who suggested that many of the things I had said then are true today. Its not often we get a chance to amend a Foreword after fourteen years have passed so I am delighted to have been given the opportunity by Norman to update my Foreword for this Manifesto issue of Creative Academic Magazine.

Doctoral students drop out of universities before graduation not because they cannot pass exams or get good grades in courses, but because they cannot come up with an original idea for a dissertation. They are bright and know an enormous amount, but all their academic careers they have learned how to answer questions, solve problems set for them by others. Now that it is their turn to come up with a question worth answering, all too many of them are at a loss.

One hears the same story in industry and the business world, in civil service and scientific research. Technical knowledge and expertise might abound, but originality and innovation are scarce. Yet the way our species has been developing, creativity has become increasingly important. In the Renaissance creativity might have been a luxury for the few, but by now it is a necessity for all.

There are several reasons for this, some that are in conflict with each other, and all of which have increased since 2005 when I wrote the first version of this foreword.

The first is the undeniable increase in the rate of change, mainly spearheaded by technology but also involving lifestyles, beliefs and knowledge. Today's technical marvel is obsolete tomorrow; the diet so many swear by today turns out to be unhealthy after all; the scientific specialty one has trained in for many years no longer provides a stable career. Great nations collapse, wealthy corporations dissolve in bankruptcy. It takes creativity not to be blinded by the trappings of stability, to recognize the coming changes, anticipate their consequences and thus perhaps lead them in a desirable direction.

A second trend, is the rapid globalization of economic and social systems. Ideally, this would lead to a better distribution of labor and of resources; a better integration of beliefs, values, and knowledge. At the same time, globalization involves a great deal of what Schumpeter called 'creative destruction' - without a certainty that the destruction will actually result in a creative outcome. And then there is the matter of 'uncreative destruction' that we witnessed in the global meltdown of 2008/09. It will take a good dose of creativity to avoid the result that the division between rich and poor will not replicate on a global scale the former division between capitalists and proletariat; that the valued traditions of less powerful cultures will not be lost, but integrated with the Western patterns so as to enrich the future instead of impoverishing it.

Another emerging trend is the specialization of knowledge, leading to new forms of fragmentation based on knowledge rather than tradition. A great number of breakthroughs in science of the past century have come at the interface of disciplines: between physics and chemistry, between chemistry and biology. As each discipline

keeps becoming deeper and more complex, it is easy to lose sight of those neighboring branches of knowledge that might help transform one's own. Any society, any institution that does not take these realities into account is unlikely to be successful, or even to survive in the coming years. On the other hand, individuals who see the opportunities in this new scenario are going to be in a better position to add value to their communities, and prosper in the process. But this requires the ability to recognize the emerging realities, to understand their implications, and to formulate responses that harness the energy of evolution to build products, ideas, and connections that add value to life. And that requires creativity.

How is education preparing young people for this creative task? So far, not very well. The culture-lag between what is needed in the present and what the schools offer has always existed; now it threatens to grow ever larger. Schools teach how to answer, not to question. They teach isolated disciplines that, as the years pass, become more and more difficult to integrate. Reference to the present, let alone to the future, is lacking in most school curricula which are dominated - understandably, perhaps - by a concern with transmitting past knowledge. Yet the past is no longer as good a guide to the future as it once had been. Young people have to learn how to relate and apply past ways of knowing to a constantly changing kaleidoscope of ideas and events. And that requires learning to be creative.

The creation of an aspirational educational manifesto aimed at opening up discussion and advancing thinking about the rightful place of creativity in a student's higher education experience, is timely and important and I commend the means of creating it through an open discursive process. Such a manifesto is always provisional but it makes public the interests, concerns and hopes for a better future and provides an indication of the direction of travel that the signatories believe would make a difference to the lives of the students that all of us involved in higher education serve.

It is a difficult but essential project. Difficult for several reasons, some more easily avoidable than others. The most obvious danger is that of reducing creativity to a facile routine of exercises in 'thinking outside the box.' These days the popular view of a creative person is someone who spins off original ideas left and right, a person one would like to hang out with at a cocktail party so as to be amused by a constant stream of witty apperceptions.

But if one is to go by the evidence of the creative individuals of the past, creativity requires a focused, almost obsessive concern for a clearly delimited problematic area. Neither Isaac Newton nor Leonardo da Vinci would have been great hits at a party. Neither Johann Sebastian Bach nor Dante Alighieri were known for their witty repartee or fluid imagination - except in their own work. There are occasional exceptions: Benjamin Franklin was more like the current conception of what a creative person should be like, as apparently he was the life of the party at the French court during his residence there. But within their domain of interest, all creative individuals love the task that engages their whole energy. They all echo the words of Paolo Uccello, the Florentine who was one of the first to learn how to use perspective in painting, who according to his wife used to walk up and down the bedchamber all night, shaking his head and muttering: 'Ah, what a beautiful thing is this perspective!'

So what is my advice for a manifesto that encourages higher education to put imagination and creativity at the centre of the higher education learning experience? I believe that if one wishes to inject creativity in the educational system, the first step might be to help students find out what they truly love, and help them to immerse themselves in the domain - be it poetry or physics, engineering or dance. If young people become involved with what they enjoy, the foundations for creativity will be in place. Vittorino da Feltre, who at the turn of the 1400s started one of the first liberal arts colleges in Europe, well understood the relationship between enjoyment and creative learning. He called his school La Gioiosa - The Joyful Place - and many of his students ended up among the leading thinkers of the next generation.

But how can the joy of learning be instilled in modern universities? There are several approaches one can take: First, making sure that teachers are selected in part because they model the joy of learning themselves, and are able to spark it in students; second, that the curriculum takes into account the students' desire for joyful learning; third, that the pedagogy is focused on awakening the imagination and engagement of students; and finally that the institution rewards and facilitates the love of learning among faculty and students alike. But even this is just a first step, a setting of the stage, so to speak. When students are eager to immerse themselves in learning because it is a rewarding, enjoyable task, the basic prerequisites for creativity are met. What next? That is where these manifestos come in. *Manifestos* because everyone who is concerned with encouraging and enabling learners to use and develop their imaginations and creativity must create their own manifesto to guide and inspire them in their vocation. The value of the examples of personal manifestos offered in this magazine, is to draw attention to the need for every teacher to draw out of themselves the beliefs and values they hold about the significance of imagination and creativity to human development and achievement and embed these in their everyday educational practices. In this way they provide a much needed foundation for the systematic enhancement of the place of imagination and creativity in every learner's higher education experience.

1 Jackson, N.J. et al (eds) (2006) *Developing Creativity in Higher Education: an imaginative curriculum*, London and New York: Routledge

Our contribution to World Creativity & Innovation Week

<https://www.wciw.org/>

World Creativity
and Innovation Week
04.15-04.21



For the last three years Creative Academic & #creativeHE have contributed to the global World Creativity and Innovation Week through an on-line discussion about creativity and imagination and the production of an issue of Creative Academic Magazine to curate the discussion.

ABOUT WCID AND WCIW GLOBAL

During World Creativity and Innovation Day, April 21 (WCID) and Week April 15 – 21 (WCIW) individuals, families, teams, leaders, nations, organizations, students, and communities are

- acknowledged
- informed
- inspired
- encouraged

to use their creativity – to be open to and generate new ideas, to be open to and make new decisions and to be open to and take new actions – that make the world a better place and to make their place in the world better too.

In 2017, the United Nations included World Creativity and Innovation Day, April 21 as a [Day of Observance](#) to encourage people to use creativity in problem-solving to approach solving the 2030 Sustainable Development Goals.



The theme of WCIW is to encourage people to use their imagination and creativity to engage with the UN's 2030 Sustainability Goals. This year we have conducted an open conversation aimed at developing a manifesto for imagination and creativity in higher education learning and educational practices in the belief that one important step towards this overarching goal is to engage tertiary education practitioners, institutions and systems in thinking about what creativity means and how imagination and creativity can be encouraged and supported in the context of a higher education.



STEPS TO A MANIFESTO TO ADVANCE IMAGINATION & CREATIVITY IN HE LEARNING & EDUCATIONAL PRACTICE

A recent article in the *Journal of Creative Behaviour*, proposed a Socio-Cultural Manifesto for the purpose of advancing theory and research in the field of creativity studies (Glaveanu et al 2019). It set out a number of propositions or beliefs about creativity held by the signatories and briefly explored the implications of these for researchers in this field of study. We found the document useful to test our own views on creativity and it was gratifying to discover that our own explorations of the meaning and practice of creativity are closely aligned to the socio-cultural perspectives offered in the manifesto.

Manifestos are common in the field of education. Such documents identify and justify concerns, new needs and interests and propose changes to current practice. They provide a platform around which interested practitioners and institutions can cohere. A nice example is the Learning Outside the Classroom manifesto prepared by the Council for Learning Outside the Classroom (<https://www.lotc.org.uk/>), which sets out the case for why learning outside the classroom is important, how such learning might be achieved and what practitioners, schools and other organisations can do to promote and realise the ideals contained in the manifesto. Another example, initiated by a group of educational practitioners, is Manifesto 15 (<https://manifesto15.org/en/>).

The need for higher education to pay more attention to the growth of imagination and the creative development of learners has been recognized for many years. The need for society and the enterprises it contains to harness imagination and creativity in order to develop innovative solutions to complex problems or develop new products or services to enable economies to flourish, has never been greater.

As we get deeper into the 21st century the future has turned out to be even more uncertain, turbulent, challenging and disruptive than we ever imagined at the start of the millennium. An education system that does not commit to the development and recognition of learners as whole, imaginative and creative beings is not enabling them to prepare themselves for a future that none of us can imagine.

Gandhi is often quoted as saying, 'we must be the change we want to see in the world.' This is a lovely ecological way of expressing the relationship and connection we and our doings have in and on the everyday world we inhabit. It links in a profound and yet simple way our perception, emotion, imagination, reasoning and action. The desire to change something begins with our perceptions that trigger strong emotions like disgust, anger, fear, empathy. Such emotions disturb us and motivate us to do something to change the situation. We imagine new possibilities, and this inspires us to commit to trying to make a difference. We harness our reasoning and decide on particular actions that provide opportunities for us to use our creativity to turn ideas into the changes we seek. In this way we become the change we want to see.

Creative Academic, #creativeHE and CIRCE embody, in their everyday activities, the change we would like to see in higher education. We are disturbed by the general lack of concern for the creative development of learners alongside their academic development and we support diverse communities of educators who share our concerns, interests and values. We can all imagine a better educational world in which learners are encouraged to use and develop their imaginations and creativities, so we have imagined a discursive process, facilitated by members of our community using public forums on Facebook, Linked-in and Twitter, to encourage people to share their views, ideas and perspectives on what this better world might look and feel like. We have framed our open discussion around the idea of a **manifesto to Advance Imagination and Creativity in HE Learning and Educational Practice**. The Discussion Papers we produced, together with some of the discussions, personal manifestos and a draft manifesto are curated in this issue of the magazine which we are publishing at the start of World Creativity and Innovation Week (April 15-21, 2019). This is our collective contribution to this important annual global event and it bears witness to the fact that so many people care about this issue.

Some important questions we explored

Through our discussions, we invited participants to share their views and ideas on a number of questions, including:

Q1 What are the most important reasons for why higher education needs to encourage and enable learners to develop and use their imaginations and creativity and invest in educational practices that encourage and facilitate such development?

Q2 Is the assumption that higher education could do more to encourage and enable learners to develop and use their imaginations and creativity, correct? If it is, what is the nature of the problem relating to imagination and creativity in higher education?

Q3 What does being creative mean in different disciplinary contexts? What might we mean by enabling learners to develop and use their imaginations and creativity in different higher education contexts? From an educational perspective, what are the most useful constructs?

Q4 What are the important values, propositions and principles that need to underpin such a manifesto to encourage higher education to invest in educational practices that facilitate the development and recognition of learners' imaginations and creativity?

Q5 What actions might be undertaken at the level of individual practitioner, department/ subject group, institution and whole system, to realise aspirations contained in the manifesto for a more creative future?

You are welcome to share your views on any of the content of this magazine on our public forums. We particularly welcome new perspectives and arguments we might include in our foundation documents.

1 Linked-in <https://www.linkedin.com/groups/8755256/>

2 Facebook <https://www.facebook.com/groups/creativeHE/>

Norman Jackson & Chrissi Nerantzi

Co-Founders Creative Academic, co-facilitators #creativeHE

Gillian Judson

Executive Director Centre for Imagination in Research, Culture and Education (CIRCE)

Background reading

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Jackson, N., Oliver, M., Shaw, M., & Wisdom, J. (Eds) (2006) *Developing Creativity in Higher Education: An Imaginative Curriculum*. London: RoutledgeFalmer.

Jackson N J (2008) *Tackling the Wicked Problem of Creativity in Higher Education* Surrey Centre for Excellence in Professional Training and Education Available at:

<http://imaginativecurriculumnetwork.pbworks.com/f/WICKED+PROBLEM+OF+CREATIVITY+IN+HIGHER+EDUCATION.pdf>

Example Educational Manifestos

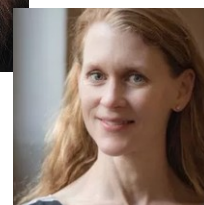
Learning Outside the Classroom MANIFESTO Council for Learning Outside the Classroom Available at: <http://www.lotc.org.uk/wp-content/uploads/2011/03/G1.-LOtC-Manifesto.pdf>

CONNECTED LEARNING MANIFESTO

<https://docs.google.com/document/d/1UNWboiHEfzuDiEzABZhpLR9FGGe26-XJNzWEc9qSEdsY/edit>

Manifesto 15 Evolving Learning

<https://manifesto15.org/en/>



DISCUSSION PAPER 1: Reasons for encouraging imagination & creativity in HE

Steps to a Manifesto to Advance Imagination and Creativity

In Higher Education Learning and Educational Practice

*In a world consumed with uncertainty and a growing sense of the obsolescence of our education systems, how can we ensure the success of ourselves as individuals, our communities, and the planet? We need to evolve education.*¹ Imagining a different future for higher education in which more attention is paid to the development of learners' imaginations and creativity, is one way of evolving education in a way that will facilitate the well-being and success of learners, our societies and our planet.

In the first discussion paper we outline some of the reasons for why it is important for higher education to encourage and enable learners to use and develop their imaginations and their creativity. These reasons provide a strong motivational force for the development of a manifesto aimed at influencing thinking and practice in higher education. We invite you to validate or refute these reasons and add further reasons.

Why should HE help learners use and develop their imaginations and creativity?



Why do imagination and creativity deserve the attention of higher education?:

Preparation for complex learning/working lives

Imagination and creativity are central to human culture and our flourishing as a species. Without them, no past or present culture would look the way it does, and no person would be able to participate in and contribute to that culture. Nor would cultures change and evolve the way they do, in response to our ideas and beliefs, our aspirations, our ethical insights and technological innovations. And yet this essential human capacity is extraordinarily neglected in educational thinking, practice and research.²

The need for education to pay more attention to the development of learners' imaginations and creativity has become more apparent as we get deeper into the 21st. A World Economic Forum³ report shows how quickly creativity for complex problem solving has moved up the rankings of top skills required for work (Figure 1).

"Creativity will become one of the top three skills workers will need. With the avalanche of new products, new technologies and new ways of working, workers are going to have to become more creative in order to benefit from these changes."

Figure 1 Top 10 skills required for work³

And demand for creativity will continue to grow as automation takes over jobs that have previously been undertaken by well qualified knowledge workers,

"Demand for higher cognitive skills such as creativity, critical thinking and decision making, and complex information processing will grow through 2030, at cumulative double-digit rates."⁴

in 2015	in 2020
1. Complex Problem Solving	1. Complex Problem Solving
2. Coordinating with Others	2. Critical Thinking
3. People Management	3. Creativity
4. Critical Thinking	4. People Management
5. Negotiation	5. Coordinating with Others
6. Quality Control	6. Emotional Intelligence
7. Service Orientation	7. Judgment and Decision Making
8. Judgment and Decision Making	8. Service Orientation
9. Active Listening	9. Negotiation
10. Creativity	10. Cognitive Flexibility

We are less than 20 years into this century and already the future we might have anticipated at the start of the millennium has proved to be even more fantastic, uncertain, turbulent, disruptive and challenging than we ever imagined. For example, we have witnessed the massive growth of the internet and the opportunities and benefits it has brought for communication, learning, collaboration, work and commerce, together with all the challenges it has posed society and individuals in terms of dependency, security and vulnerability. We have experienced the global recession of 2008-09 and the massive social impacts brought about by austerity measures, and in the UK we are currently grappling with the consequences of Brexit with all its challenges and uncertainties. Coping with these disruptions at personal, organisational and societal levels requires all our imagination, ingenuity and resourcefulness.

Disruptions to an orderly and productive existence are likely to increase as the world becomes more connected and turbulent. Work is changing rapidly as we enter a new era fueled by exponential advances in digital technologies. In particular, the rise of smart machines and the decline of the full-time employee are reshaping the ways people work and are creating significant uncertainty about what readiness for further learning, career, and life will look like.⁵ We continue to move towards more flexible arrangements where the individual is working with multiple companies at the same time. A lot of it is knowledge work, which can be done from anywhere. Stephane Kasriel, co-chair of the Global Future Council on Education, Gender and Work, says entrepreneurs and freelancers represent the future of the workplace, as traditional office jobs become less and less relevant.⁶

Coupled to this are technological developments including the rise of smart machines, global production networks, and technological acceleration are transforming the work landscape. More and more we realise the extent of technological job displacement through automation and augmentation and the profound effect this will have on the productive contributions of humans through work.⁵ People will need to harness their creativity, ingenuity and resourcefulness to survive and flourish in such a volatile and unforgiving environment.

*Work in the modern British economy will increasingly involve creativity and innovation as a mass and everyday activity, applied not just to leading edge high-tech and cultural industries, but to retailing and services, manufacturing and sales. Britain will need an education system that encourages widespread development of generic skills of creativity which include idea generation; creative teamwork, opportunity sensing; pitching and auditioning; giving criticism and responding to it; mobilising people and resources around ideas to make them real..."*⁷

Government views education as a vehicle to employability: we educate people to serve the economy. The engines of economy are the products and services that people want to buy and their continued supply requires business to continually invent and innovate. We might view innovation as the "successful creation of needed change through ideas. This broad definition has "creation" as its key activity. When you are innovating the most prevalent form of activity that you will be involved in is "creation". What will you be creating? You will be creating change.

What change? The needed change. How will you create the needed change? It will be through ideas. What are ideas? Those thoughts [that often spring from imagination] that bring in genesis for change."⁸ From an economic perspective, individual and collective imagination and creativity are valued for their potential to lead to innovation and this is the economic or commercial argument for higher education to do more to help and enable learners use and develop their imaginations and creativity, in the belief that creative dispositions and skills may be transferred from educational to business contexts.

Societies are struggling to come to terms with a fast changing world and the problems and challenges it brings and trying to work out how to adapt or recreate their educational systems and practices to meet the demands of the present mindful of the not so distant future. A number of commentators have drawn attention to the need for radical change.

*"1.0 schools [colleges and universities] cannot teach 3.0 kids. We need to redefine and build a clear understanding of what we are educating for, why we do it, and for whom our educational systems serve. Mainstream compulsory schooling is based on an outdated, 18th century model for creating citizens with the potential to become loyal, productive factory workers and bureaucrats. In the post-industrial era, this should no longer be the end goal of education. We need to support learners to become innovators, capable of leveraging their own imagination and creativity to realize new outcomes for society. We do this because today's challenges cannot be solved through old thinking. And, we are all co-responsible for creating futures with positive outcomes that benefit all people in the world."*¹

Higher education has a pivotal role to play in enabling young people to prepare themselves for the unimaginable challenges they will face as they journey through a complex learning life and supporting adults in their continuous learning and developmental needs. An education system that does not commit to the development and recognition of learners as whole creative beings is not enabling them to prepare themselves for the unimaginable challenges they will encounter or create for themselves.

Support for this contention comes in the form of employer surveys that indicate the value of creativity in the workplace⁹ and also in future of education, foresight studies and forecasts which have repeatedly highlighted the need for creativity as an essential element of the capabilities needed for success in the workforce of the future. For example, the 2030 foresight study conducted by Redecker¹⁰, identified creativity as a 'new' personal skill within a 'central learning paradigm that is characterised by lifelong and lifewide learning and shaped by the ubiquity of Information and Communication Technologies (ICT).

More recently (March 2019), Ehlers¹¹ published the results of a Delphi Survey on “Future Skills - The future of learning and higher education” conducted with 50 international experts. The Delphi survey focused on three questions:

- I - Future skills: Which skills do future graduates need? Which skills are relevant or will be relevant in order to sustainably design the society of the future?
- II - Future learning concepts: What will learning look like and what are suitable strategies for higher education organizations to support the development of future skills through new learning concepts?
- III - Future higher education: How can higher education institutions be transformed in order for their educational concepts to optimally foster future skill development?

It identified creativity as one of 16 future skills, defined as the ‘ability to act successful on a complex problem in a future unknown context of action’ an ‘individuals’ disposition to act in a self-organized way, visible to the outside as performance.’ These skills are distributed between three categories (Figure 1) characterized by:

1) individual perception, individual reflection and development of awareness (subject related), and 2) skills that are related to things that can be experiences (objects), and 3) skills that are related to the social world. All three dimensions interact with each other and are not sole expressions of isolated skill domains. Subjective aspects influence outlook on objective aspects as well as social aspects impact subjective and objective aspects.

Figure 2 Future skills Report^{11:23}

Creativity, defined as ‘to be able to deal with task in a new, unforeseen way’ is assigned to the object category of skills that are relying on individual dispositions to act in unknown future environments but where the object of action is not the individual itself but a certain object which needs to be acted upon - e.g. a certain task. The expert panel rated all skills in the object category to be important, with agility and creativity skills being least well supported by HEI’s ($M = 2.53$, $SD = 0.87$; $M = 2.52$, $SD = 0.85$), leading to the highest perceived discrepancy between what is perceived to be important and their current level of support in higher education.

Subject	Object	Social
Autonomy: capacity to make an informed, uncoerced decision and act accordingly	Agility: ability to orient oneself in fast changing contexts, constantly changing objects	Sense making: ability to identify with and make sense of given organizational rules and values for one’s own life and work
Self-initiative: individual ability to take an active and self-starting approach to work goals and tasks	Creativity: to be able to deal with task in a new, unforeseen way	Future mindset: ability to productively develop an organizations’ context, continuously learn and develop one’s skills and to be open for new and unknown challenges within a given organizational context
Self-management: ability to lead and regulate oneself to decide in a self-responsible way	Tolerance for ambiguity: ability to deal with uncertainty and in different roles	Cooperation skills: ability to cooperate in teams and have social and intercultural skills
Need/ motivation for achievement: individual’s desire for significant accomplishment, mastering of skills, control, or high standards	Digital literacy: ability to utilize digital technology in a creative way for learning, working, collaboration	Communication competence: ability to actively create dialogue, achieve consensus and criticize
Personal agility: positive attitude, resilience and openness to changes, being comfortable in ambiguous and changing situations	Ability to reflect: ability to critically analyze made experiences and learn for future contexts	
Autonomous learning competence: ability to continuously adapt through learning, know learning methods, evaluate own progress, ability to learn motivated		
Self-efficacy: one’s own conviction to be able to act successfully on a given task		

2 A core human right - the freedom and power to imagine and create

The educational value proposition underpinning any consideration of why imagination and creativity are important in higher education is inspired by ‘the moral purpose of education: to make a positive difference to students’ lives’^{12:18}. Unfortunately, the tendency in modern society is often to regard creativity and imagination as a prerogative of early childhood education. Beyond this secondary and tertiary education seems to be giving up on nurturing, enhancing or revitalizing students’ imagination and creativity, to go beyond what they think they already know, what they have here and now, or what they see in front of their eyes. If the purpose of higher education is to help students develop their potential as fully as possible, then enabling students to use and develop their imaginations and their creativity should be an explicit and valued part of their higher education experience. This is clearly not the experience of many students in higher education.

Creativity and imagination lie at the heart of students' own sense of who they are, 'even where creativity was not taught, not considered teachable and not valued in assessment, it was still relevant in defining how the students saw themselves'¹³. Creativity goes to the heart of what it is to be a human being and higher education has a responsibility to help learners develop their understandings and awareness of their own creativities as they develop their own sense of who they are and who they are trying to become. A learner's creative development and achievement is as important as their academic development and achievement.

Matthew Taylor argues that we all have the power to create¹⁵ and we are on the threshold of a new era for human creativity. Across the world more mobile, more educated, more questioning populations are seeking out and discovering new routes to self-expression, collaboration, enterprise, and thanks to the power of the social web, people everywhere are creating and connecting in a host of new ways. Encouraging, valuing and recognising the imaginations and creativity of our students is one small step towards creating a more creative society. The promise in this positive message should encourage universities to take on the challenge of preparing their students for the rest of their creative lives by valuing their creativity and encouraging them, through the opportunities they provide, to use and develop their imaginations and creativity, as an integral and important part of their higher education experience - both academic and non-academic.

Preparing learners for a lifetime of learning and tackling problems that emerge from ever increasing complexity, is higher education's perpetual 'wicked problem'.¹⁶ We live in a world of emergence, a world in which we have to experience situations, make sense of them, imagine, make judgements and respond to them, in entirely new ways. There are few right answers, many possibilities, and lots of uncertainties requiring us to take risks and try again and again until we succeed. Our imagination and creativity are essential to surviving and flourishing in this emergent world.

The trouble is our educational environments minimize uncertainty and risk taking. Programmes demand conformity and prescribe learning outcomes that value learning that is predicted and predictable. While we espouse the desire for originality in the products of learning our emphasis on formal learning and the reproduction of decontextualized explicit knowledge at the expense of the tacit and contextual knowing is at odds with the epistemologies of successful practice in work and other social environments.

Imagination and creativity are composite attributes engaged through an individual's interactions with the world as they seek to achieve something that matters to them. Both are stimulated by curiosity and the greatest disservice that educational institutions can, and actually do, is to kill curiosity and the will to inquire. And the easiest way to kill curiosity is to control the process and outcome of learning too tightly. So educational theories and practices that take imagination and creativity seriously always try to encourage inquiry, exploration, investigation and experimentation.

Enhancing our ability to be creative helps us to open our minds. Creative insight requires that we take a cognitive leap outside of our existing neural network, beyond what we believe to be true. And, given the global rise in fear-based divisiveness, it has never been more important to see things from new perspectives and escape our own conditioned thinking. We need imagination and creativity to empathise with others and surely an education for a world in which divisiveness and intolerance are rife is a world that needs people to see the world through eyes, minds and cultures of others.

'Even though personal creativity may not lead to fame and fortune, it can do something that from the individual's point of view is even more important: make day-to-day experiences more vivid, more enjoyable, more rewarding. When we live creatively, boredom is banished and every moment holds the promise of fresh discovery. Whether or not these discoveries enrich the world beyond our personal lives, living creatively links us with the process of evolution' ^{14:344}.

"We are on the cusp of an unprecedented opportunity. Powerful social and technological change mean that we can realistically commit to the aspiration that everyone can live a creative life. What do I mean by a creative life? It's a life that feels meaningful and fulfilled, where we are free to express ourselves as individuals. We have access to the power of resources to shape our own future. We can make our unique contribution to the world. Creativity is in all of us." ¹⁵

If we think that creativity and imagination are important in education, we need to dispel, above all, the assumption that schools and universities seek efficiency in teaching predetermined curricular contents as typically seen in the language of test-based accountability. If we seek efficiency, students will lose valuable opportunities to explore the ideas and uses behind the information they are given. We should rather follow Jean-Jacque Rousseau's advice to "lose time" and re-structure schooling in a way that students are encouraged to experience as deeply and widely as possible the meanings, implications, and uses of any items of knowledge introduced. I think that HE is where we can afford to spend time in this way. Keiichi Takaya

Seeing the way that HE has been commodified and marketised - with a reductive employability agenda - makes me see the need for creativity now more than ever! What we found with our 'non-traditional' students was that creativity was emancipatory practice...most of them had the creativity knocked out of them at school and as a consequence their whole sense of self was diminished. We developed a first year year long module where the whole emphasis was on creative practices... We saw self-efficacy and JOY grow... we saw people become more than they thought they were - more than they thought they could be. Sandra Sinfield

Creative and empowered individuals are committed to learning and development, their own and of others, and to making a positive and transformative contribution to their closer and wider community through using their imagination and curiosity to be and live creatively. Gandhi is often quoted as saying, 'we must be the change we want to see in the world.' This is an ecological way of expressing the relationship and connection between ourselves and our doings in and on the world. It links in a profound and yet simple way our perception, emotion, imagination, reasoning and action. The desire to change something begins with our perceptions that trigger strong emotions like disgust, anger, fear, empathy. Such emotions disturb us and motivate us to do something to change the situation. We imagine new possibilities, and this inspires us to commit to trying to make a difference. We harness our reasoning and decide on particular actions that provide opportunities for us to use our creativity to turn ideas into the changes we seek. In this way we become the change we want to see.

Any attempt to change something in a significant way or invent something new requires imagination in a context of 'not knowing'. Keats called this state of mind just prior to creative insight 'negative capability'. It's open, accepting, unattached, and it requires a high tolerance for uncertainty. It's a state of mind that can be practised and developed. This can be difficult for people who like to be quick, right, rational and certain (qualities that educational systems are good at developing) - but it's only by letting go of certainties and thinking 'wide' rather than narrow, that we can really grow. 'From this angle,' says Trites, in his article *Negative Capability*, 'negative capability is a tool for activists: it is not only a means of self-realization and a key to awakening the imagination, but also a means of resisting the imagined realities of exploitation and social hierarchy in favour of radical alternatives.'¹⁷

Higher education can help students in this process of becoming creative and empowered so that they critically and actively engage in making a real difference to the world we live in. But let us not forget, being able to use our imaginations and creativity, or being involved in the imaginative and creative ideas and practices of others, brings us joy and wonder, "...[the] capacity to imagine is a big part of what makes us human. Imagining is one of life's pleasures; it's a joy to imagine 'alternative realities', to conjure up prospective possibilities, to conceive of images, patterns, and ideas."^{18:134} David Bohm says that the intrinsic appeal of all artistic or creative endeavour is the satisfaction of perceiving what he describes as 'a certain oneness and totality or wholeness, constituting a kind of harmony that is felt to be beautiful'^{19:3}.

Deliberately engaging learners in activities and experiences that demand imagination and creativity affords them the opportunity to experience a sense of joy that is more likely to stimulate their intrinsic motivations and encourage them to engage deeply with their educational tasks. Through such energetic deep engagement, learners are more likely to discover meaning and relevance and to make progress with their work, which feeds back into positive psychological states and their sense of well-being. Educators notice that engagement and commitment in tasks and productivity increases as learners use and develop their imaginations and creativity: an observation that is consistent with research on creativity, commitment and productivity in work environments.

'in the realm of knowledge work, people are more creative and productive when their inner work lives are positive—when they feel happy, are intrinsically motivated by the work itself, and have positive perceptions of their colleagues and the organization.'

*'Of all the things that can boost emotions, motivation, and perceptions during a workday, the single most important is making progress in meaningful work. And the more frequently people experience that sense of progress, the more likely they are to be creatively productive in the long run.'*¹⁹

The unbelievable roads creativity in higher education can take you | Natalia Khozyainova | TEDxUNYP

I want to invite you to look at this t-shirt as a metaphor for our whole educational system but look at it through two different lenses. The first lens is when I just purchased the t-shirt, it was plain white but it had the useful purposes of being a clothing item and of keeping me warm. This is our education without creativity and imagination. It's very valuable and useful but plain white. The second lens is when I added color and my personal design [in my chemistry class] to it and this is our educational system with creativity and imagination. It still has the same purpose and the same value and importance in our life but it also has our personal memories [meaning?] and contributions [making?] attached to it. And by giving us so much more[by] adding [our] creativity and imagination into the educational [process]..... It has one undeniable trait that nobody in the world will ever be able to contradict, it is simply more fun for everyone.



That creativity snippet had an amazing impact on my perception of the class. I not only received this direct answer on how chemistry can be related to the real world and to my world but I also felt that I could be the content creator in the class as well and that I could contribute into that discipline with the same right as the discipline could contribute into my personal growing.

<https://www.youtube.com/watch?v=QGJhaxFKto&t=217s>

3 A social / cultural necessity to help sustain our society, environment and planet

And surely, beyond creativity concerns for individual wellbeing and concerns that they can be economically productive, we need people who are willing to harness their creativity in a benevolent way to try to change some of the world's most intractable social, political, economic and environmental problems.

Maxine Greene²¹ has long argued that imaginative development is crucial to the building of societies characterized by empathy and solidarity, societies genuinely inclusive of people from different backgrounds, of different abilities, and with different ways of seeing the world. Imagination is, thus, deeply interwoven in the relationships between human beings and the rest of the living world.

Sustainable development is the political global project in our era. Global leaders are attempting to galvanise the world in coordinated action to secure the future for mankind and all life on the planet. The UN Decade of Education for Sustainable Development (2005-2014) initiated the process of educating the planet for a different future. The 2030 Agenda for Sustainable Development continues that process setting a challenging agenda through 17 Goals. In 2017 the UN General Assembly called for international recognition of April 21 as World Creativity and Innovation Day; 'a day to raise awareness of the role of creativity and innovation in problem-solving and by extension, in the implementation of the Sustainable Development Goals.'²¹ We need the imagination and creativity of individuals, communities, cities and whole societies to maintain, sustain and develop the environments in which we live and to sustain our planet and the ecosystems it supports. The development of socialization imagination²² is thus an imperative for our species and right and proper enterprise for our education systems.

Provisional conclusion

There are many reasons for encouraging and valuing imagination and creativity in the learning and achievement of higher education learners. Some of these reasons are linked to culture and some to the economy, some are related to the process of teaching and engaging learners deeply in their learning, and some are linked to the growth, well being and sustainability of individuals, society, the environment and the planet.

There is a widely held perception in higher education that we can do more than we currently do to encourage and enable learners to use and develop their imaginations and creativity in tandem with the academic knowledge, qualities and skills higher education has traditionally developed. The challenge is to change the prevailing culture in higher education so that the development of learners' imaginations and creativity is integrated with more traditional forms of academic development. We must start by appreciating what we already do and imagine new and better ways of enabling learners to develop and use their imaginations and creativity. This is the hope and spirit in which we conducted our open exploration aimed at advancing thinking about the educational practices and cultures that will make higher education a better place for the development of learners' imaginations and their creative potential.

Who thinks we can do more to encourage students to develop and use their imaginations and creativity?



INVITATION TO THE READER

Q Are these propositions valid?

Q What other arguments might be included for why higher education needs to take seriously the development of learners' imaginations and creativity and invest in educational practices that encourage and facilitate such development?

Please post your responses in our community forums

1 Linked-in <https://www.linkedin.com/groups/8755256/>

2 Facebook <https://www.facebook.com/groups/creativeHE/>

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Norman Jackson with contributions from Gillian Judson, Chrissi Nerantzi, Heather Dyer

Key Discussion Points Week 1

The value of imagination and creativity in H.E.



STEPS TO A MANIFESTO TO ADVANCE IMAGINATION & CREATIVITY IN HE LEARNING & EDUCATIONAL PRACTICE

Introduction

Week 1's discussion focused on the question: Why do imagination and creativity deserve the attention of higher education?

Participants were invited to consider 3 potential reasons for their being important to H.E.: as

- *Preparation for complex learning/working lives*
- *A core human right - the freedom and power to imagine and create*
- *A social / cultural necessity to help sustain our society, environment and planet*

In addition, they were asked what other arguments might be included for why higher education needs to take seriously the development of learners' imaginations and creativity and invest in educational practices that encourage and facilitate such development.

The conversation

20 people took active part in the Facebook discussion: Jonathan Baldwin, Kevin Byron, Teryl Cartwright, Sara-Louise Dobson, Craig Andrew Hammond, Kavita Hoonjan, Norman Jackson, Joy Joy, Gillian Judson, Paul Kleiman, Carolina Lopez, Jocelyn McIntosh, Chrissi Nerantzi, Jonathan Purdy, Simon Rae, Josefina Ramirez, Sandra Sinfield, Keiichi Takaya, Holly Warren, Jennifer (Jenny) Willis. There were up to 100 others following the posts.

Contributions came from the UK, Canada and Australia. Posts were supported by videos, images and text references.

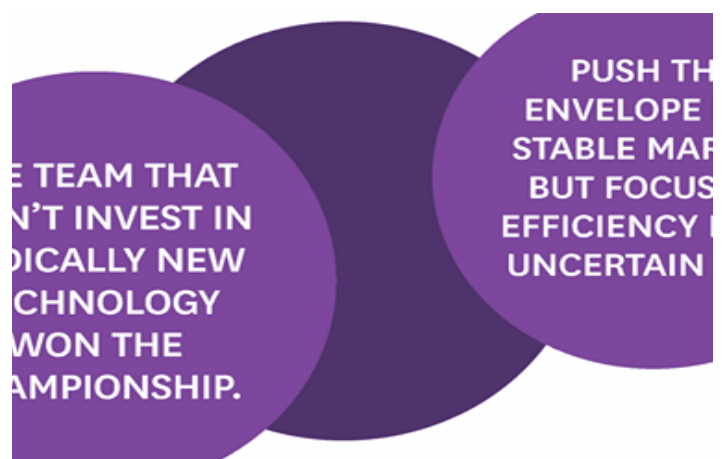
The following synopsis records the key themes discussed, though not necessarily in chronological order. Readers are encouraged to use this as a road map and to dip into the conversations themselves in order to appreciate the nuances of each discussion.

Creativity leads to greater productivity

- Including creativity in an activity increases engagement
- This raises issues of output versus commitment
- Is there a danger of 'dumbing down'?
- Practicalities of inquiry-based learning: scaffolding is needed

Creativity/imagination and reason/critical thinking

- Imagination and creativity are traditionally opposed to reason
- Canada still separates creative and critical thinking as different 'capacities'. CIRCE is attempting to change this



https://hbr.org/2017/05/sometimes-less-innovation-is-better?autocomplete=true&fbclid=IwAR2wAb-fGoJnVx9H_w2-P1mPYUazYk8Jjrm0veq-LKF8xA5wzD04zbO1TcA

Imagination and emotions

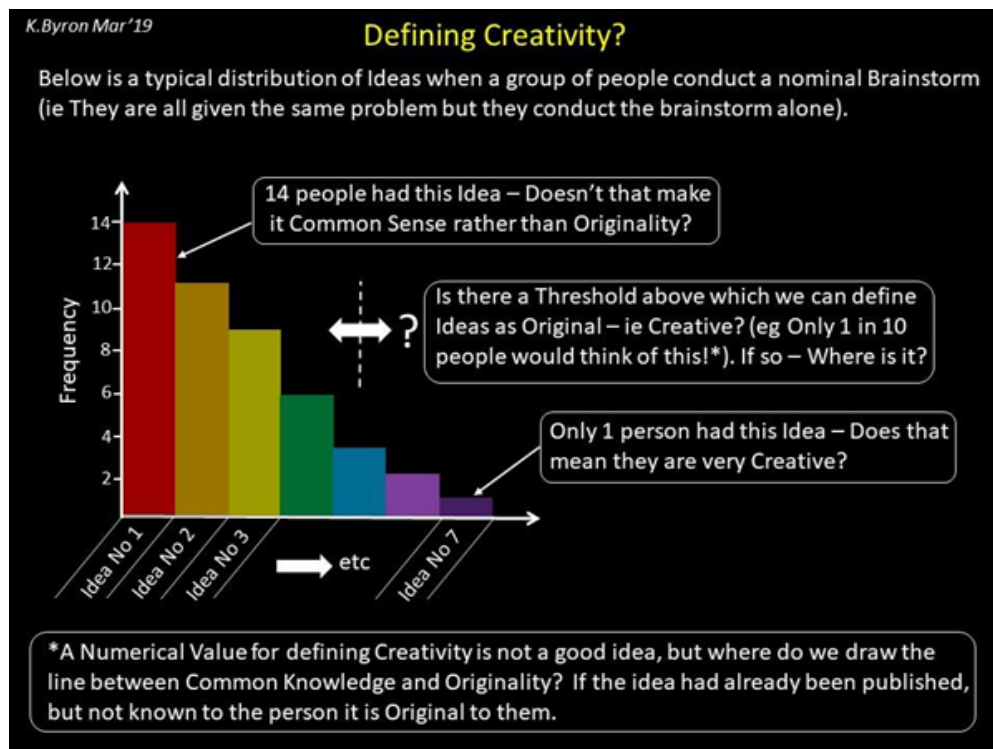
- "...[the] capacity to imagine is a big part of what makes us human. Imagining is one of life's pleasures; it's a joy to imagine 'alternative realities', to conjure up prospective possibilities, to conceive of images, patterns, and ideas." (R diYanni, 2016, p. 134)
- I think the EMOTIONAL nature of imagination/creativity is something that people consider as "unsuitable" for the "rigour" of higher education. This is a dangerous misconception--no emotional engagement? No learning? (Mary Helen Immordino Yang)
- We need our emotions to be able to empathise

Creativity and transformation of the individual/institution/society

- CR's manifesto: stresses commitment, boundary crossing and empowerment
- Transformation in the individual, institution or society is emotion-led

Questioning assumptions of HE's purpose

- Commodification and marketisation, vocational objectives vs widening horizons
- As employment opportunities fall, so the need for creativity increases
- Creativity needs to be accepted as well as seen as novel and useful



Interconnectedness and collective empathy

- The role of play as a collective third space
- Creativity is an ecological phenomenon
- 'Perfinker' integrates perception, thinking and feeling

Creativity = novel, useful and accepted

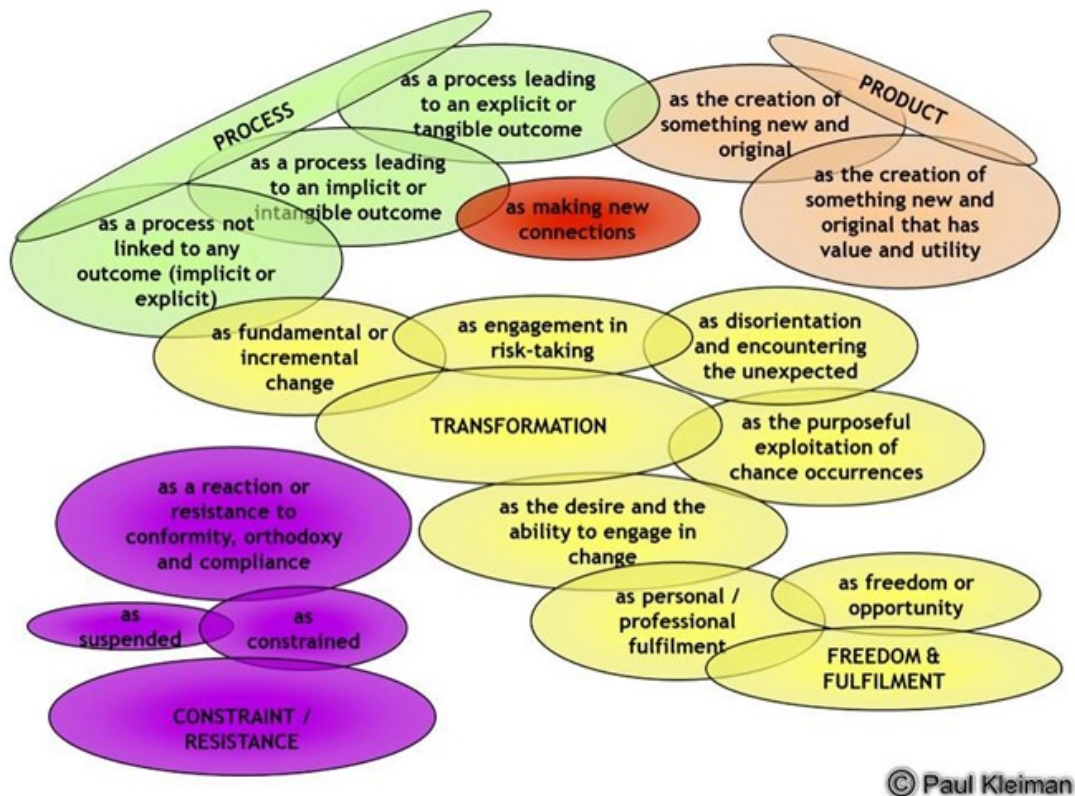
- Novelty and originality - absolute or personal
- Encourage generation of creativity but don't judge it too soon - may discourage production

Creative processes and value judgements

- Distinction between benevolent and malevolent uses of creative outputs Cropley, D. H., Kaufman, J. C. and Cropley, A. J. (2013). Understanding malevolent creativity https://www.academia.edu/.../Understanding_Malevolent...
- Creative products are neutral, uses to which they are put may raise ethical questions

Habitats and habits of institution

- Ken Robinson TED: global imperative to act in light of technological and demographic changes
- Need to look at both what HE offers and how it interacts with the environment



In short, the discussion both took up the themes in the task, and also went beyond them to anticipate some of the topics planned for following weeks e.g. assessing creativity.

Jenny Willis

With thanks to Paul Kleiman for his illustrations

DISCUSSION PAPER 2: The problem of imagination & creativity in HE

Steps to a Manifesto to Advance Imagination and Creativity in Higher Education Learning and Educational Practice

*In a world consumed with uncertainty and a growing sense of the obsolescence of our education systems, how can we ensure the success of ourselves as individuals, our communities, and the planet? We need to evolve education.*¹ Imagining a different future for higher education in which more attention is paid to the development of learners' imaginations and creativity, is one way of evolving education in a way that will facilitate the success and wellbeing of learners, our societies and our planet. We will need all our imagination and creativity to secure this future.

In the second discussion paper² we examine some of the assumptions we are making about creativity and imagination and beliefs about their value. We also explore the problem associated with encouraging and enabling learners in higher education to use and develop their imaginations and creativity. Any manifesto will be motivated by these beliefs and engage with these problems.

Assumptions/beliefs that underlie the idea of a manifesto for imagination & creativity in HE

The world needs people who can combine their knowledge, skills and capabilities in imaginative, creative and adventurous ways to find and solve complex problems. Without imagination, no culture would look the way it does today, and no learner would be able to participate in and contribute to that culture. Nor would cultures change and evolve the way they do, in response to our ideas and our ideals, our ethical insights and technological innovations, were it not for imagination. Creativity and imagination are important to our inventiveness, adaptability and productivity as individuals and social groups, to the prosperity and functioning of organizations and to the cultural health of our societies and the prosperity of our economies. And yet imagination and creativity are extraordinarily neglected in educational thinking, practice and research, particularly in the context of Higher Education.

There is an assumption and a belief underlying this discussion that imagination and creativity are important and necessary to achieve difficult things, to maintaining our culture and to sustaining individual and collective well-being. The assumption here is that imagination and creativity are beneficial - they benefit us and our society. But we have to acknowledge that there is a dark side to creativity.³ Cropley et al. distinguish between 'benevolent creativity' which is ethical and serves common goods and 'malevolent creativity' that achieves a range of negative goals like unfair advantages or manipulations. Malevolent creativity is concerned with those products or outcomes that are deliberately planned to damage others. Any manifesto that sets out to encourage learners to use and develop their imagination in HE must do so within a responsible ethical and moral framework.

A second assumption and widely held belief is that everyone has imagination and has potential to be creative. But some people are more inclined to make use of their imaginations and creativity and when combined with their particular knowledge and talents they are able to achieve things that can have significant impact. In this way groups or whole societies recognise their creativity. But people also perceive their own creativity in relation to others, which is why many people claim that they are not (very) creative.

A third assumption we are making is that education has a role to play in encouraging and enabling learners to develop and use their imaginations and creativity. Without engaging students' imaginations, learning, wherever it takes place, won't enable them to go beyond the passive reception of disconnected ideas. The educated mind should be more than a well-informed mind; an educated person is necessarily an imaginative person, being able to go beyond what is in front of his/her eyes. And the mark of an educated/imaginative person is that she won't assume that she has ever come to an end of what's worth learning. Implicit in this assumption is imagination and creativity can be cultivated through our education systems and that it is desirable to understand how they can be nurtured and invest time, effort and resources in enabling such cultivation. Egan's Imaginative Education pedagogy is one example of an imagination-focused approach to teaching in which "cognitive tools" are used in all subject areas and learning contexts to engage learners and develop imaginative capacity.^{4,5}

What is the problem with creativity in HE?

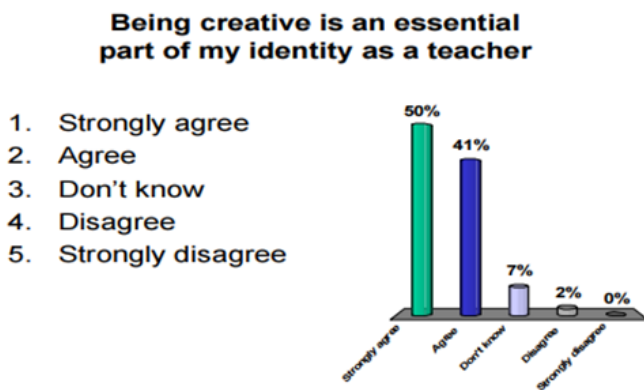


A fourth assumption is that there is a general misconception in the academy that imagination is somehow at odds with academic thinking and, thus, has no place in the academy. There might also be an assumption by some people that one has or doesn't have imagination... rather than imagination being a capacity that we can develop, and the misconception that kids are more imaginative than adults.

Consequently, we do little to acknowledge the existence of imagination and creativity in most fields of higher education. The problem with higher education is that it pays far too little attention to the development of imagination and creativity. Creativity and the use of imagination are rarely acknowledged as explicit and desirable outcomes of higher education: their presence is often more by accident than conscious design.

A fifth assumption is that higher education teachers, and others who encourage and support students' learning and development, recognise the importance of imagination and creativity in their own professional practice and therefore can appreciate its importance in the future work practices of their students. The teaching and learning process, with all its complexity, unpredictability and endless sources of stimulation from the subjects that are taught or practised in the field, is an inherently creative place, and there are many potential sites for creativity embedded in the professional act of teaching. Creativity emerges spontaneously through the relationships and interactions of teachers with their students in highly specific and challenging situations and most teachers recognise. Indeed, most higher education teachers see creativity as being important to their identity and success as a teacher.

Figure 1 Typical pattern of beliefs in a group of higher education professionals (58 people at the University of Ulster Creativity Conference April 2008).



Saunders provides a helpful synthesis of how imagination and creativity feature in the role of the professional educator, "...teaching is a highly complex activity - it needs both the appliance of science and the exercise of humanistic imagination; it demands scholarship, rigorous critical enquiry, the collective creation of secure educational knowledge, on the one hand, and it requires insight, inspiration, improvisation, moral sensibility and a feel for beauty, on the other Similarly, we are often encouraged to think about research mainly in terms of systematic and reliable ways of gathering and analyzing empirical data. However, research is also much more than empirical data gathering: it includes theory-building, hypothesis-testing, critical analysis and appraisal,

evaluation, and the synthesis of concepts and evidence from a range of different disciplines - all of which are crucial for informing practice at deeper levels - research in this sense also happens to be rooted in imagination, intuition and aesthetic awareness... as well as cognition and disquisition." ^{6:163}

A sixth assumption is that even if we desire to encourage educational experiences that encourage learners to use and develop their imaginations and creativities there are many barriers and inhibitors to realising this goal. Any conversation with HE teachers will surface many factors and conditions that get in the way of cultivating the creativity of learners for example: staff and student attitudes/resistances/ capabilities/ interests; organizational factors - structural, cultural, procedural; the atomized nature of curricular designs and an explicit outcomes-based approach to learning and assessing learning; time and other resources; government policy and more. One of the reasons for facilitating discussion is to acknowledge these factors so that they can be recognised and any manifesto is likely to contain within it aspirations that such inhibitors can be overcome.

But it is not enough for educators to overcome such barriers through their own ingenuity and persistence, ultimately, organizational systems and cultures have to be changed. Such changes have to be led through sympathetic, inspiring and energetic leaders. A seventh assumption is that we will not change the conditions for creativity in higher education unless we can persuade the leaders and decision makers that it is worth doing.

Paradoxically, an eighth assumption is that we can all be leaders and do something about this state of affairs. As Stephen Covey reminds us, "Between stimulus and response there is a space. In the space lies our freedom and power to choose our response. In those choices lie our growth and our happiness".^{7:4} HE teachers, have high degrees of autonomy over their own practices and everyone who is involved in the education of students can change the way he/she thinks and acts. Every group of teachers responsible for creating students' educational experiences can choose or not choose to provide experiences that will help them use their imaginations and develop their creative potential, and every institutional decision maker can shape policy, strategy or management practices so that creativity will flourish or be inhibited.

In trying to encourage and facilitate a global conversation about imagination and creativity in higher education, we are assuming that we have the potential to influence and change the way people think and behave and encourage a culture that is more valuing of creativity and more knowledgeable of its effects in and beyond higher education learning.

What is the problem associated with imagination, creativity and innovation in HE?

Solutions to complex problems lie in their exploration so it's worth thinking about the many dimensions of the problem associated with imagination, creativity and innovation in higher education.

1 Learners' imaginative and creative development and orientation to innovation are bound up with the larger wicked problem of how higher education prepares learners for a lifetime of living and working

Preparing learners for a lifetime of working, learning and living in uncertain and unpredictable worlds that have yet to be revealed is perhaps one of the greatest responsibilities and challenges confronting universities all over the world. We live in a world where change is exponential and we are trying to tackle the 'wicked problem'⁸ of preparing students for jobs that don't yet exist, using technologies that have not yet been invented, in order to solve problems that we don't know are problems yet.

CHARACTERISTICS OF WICKED PROBLEMS⁸

Rittel and Webber⁵, identified 10 properties that distinguish wicked problems from difficult but ordinary problems.

1. There is no definitive formulation of a wicked problem. It's not possible to write a well-defined statement of the problem, as can be done with an ordinary problem.
2. Wicked problems have no stopping rule. You can tell when you've reached a solution with an ordinary problem. With a wicked problem, the search for solutions never stops.
3. Solutions to wicked problems are not true or false, but good or bad. Ordinary problems have solutions that can be objectively evaluated as right or wrong. Choosing a solution to a wicked problem is largely a matter of judgment.
4. There is no immediate and no ultimate test of a solution to a wicked problem. It's possible to determine right away if a solution to an ordinary problem is working. But solutions to wicked problems generate unexpected consequences over time, making it difficult to measure their effectiveness.
5. Every solution to a wicked problem is a "one-shot" operation; because there is no opportunity to learn by trial and error, every attempt counts significantly. Solutions to ordinary problems can be easily tried and abandoned. With wicked problems, every implemented solution has consequences that cannot be undone.
6. Wicked problems do not have an exhaustively describable set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan. Ordinary problems come with a limited set of potential solutions, by contrast.
7. Every wicked problem is essentially unique. An ordinary problem belongs to a class of similar problems that are all solved in the same way. A wicked problem is substantially without precedent; experience does not help you address it.
8. Every wicked problem can be considered to be a symptom of another problem. While an ordinary problem is self-contained, a wicked problem is entwined with other problems. However, those problems don't have one root cause.
9. The existence of a discrepancy representing a wicked problem can be explained in numerous ways. A wicked problem involves many stakeholders, who may all have different ideas about what the problem really is and what its causes are.
10. The planner has no right to be wrong. Problem solvers dealing with a wicked issue are held liable for the consequences of any actions they take, because those actions will have such a large impact and are hard to justify.

The world is full of wicked problems just visit the BBC World News web page to see a sample of the intractable problems that beset the world. The world needs people who can combine their knowledge and talents in creative and adventurous ways to work with such complexity to find better and more sustainable solutions, create value, enrich our societies and cultures, and enhance their own sense of identity and wellbeing in the process.

Compared to some of the world's wicked problems, the problem of creativity in English or any other higher education system may seem trivial. But we would argue that the problem of creativity in any education system is fundamental to enabling society to grapple with the wicked problems that emerge from all the social, cultural, political and technological and complexity that surrounds us on a fragile planet that itself is full of complexity and in need of responsible stewardship.

Preparing learners who can engage with the problems that emerge from increasing complexity is higher education's 'wicked problem' and creativity is an important facet of this problem.

The problem is that higher education values above everything else individual academic achievement while preparing people for a lifetime of cooperation and co-creation. Our educational programmes demand conformity and prescribe learning outcomes that only value learning that we expect, while we espouse the desire for originality in the products of learning.

And our emphasis on formal learning and explicit knowledge at the expense of the tacit and informal is at odds with the epistemologies of successful practice in work environments.

The key challenge is to change the prevailing culture so that greater value is placed on students' creative development alongside more traditional forms of academic development.

Some dimensions of the problem

Through many discussions, surveys and small-scale research studies over nearly two decades we might represent the problem of creativity in higher education in these sorts of ways².

1 The problem is not chronic, in the sense that the vast majority of teachers believe there is an issue to be addressed. It is more a sense of dissatisfaction with a higher education world that seems, at best, to take creativity for granted, rather than a world that celebrates the contribution that creativity makes to academic achievement and personal wellbeing.

2 The problem of creativity being perceived as an attribute of the gifted. While most teachers believe that creativity is not a rare gift and that it is possible to develop your creativity if given the opportunity to do so (Figure 2) many people believe that they are not creative because they compare themselves with people they perceive as being more creative. Individuals' creative development will be hindered unless they believe that they have potential to be creative in their own ways and circumstances. In other words, to understand what creativity means to us as individuals, we must appreciate it at an appropriate scale, context and circumstance.

Figure 2 Typical pattern of beliefs in a group of higher education professionals (58 people at the University of Ulster Creativity Conference April 2008).

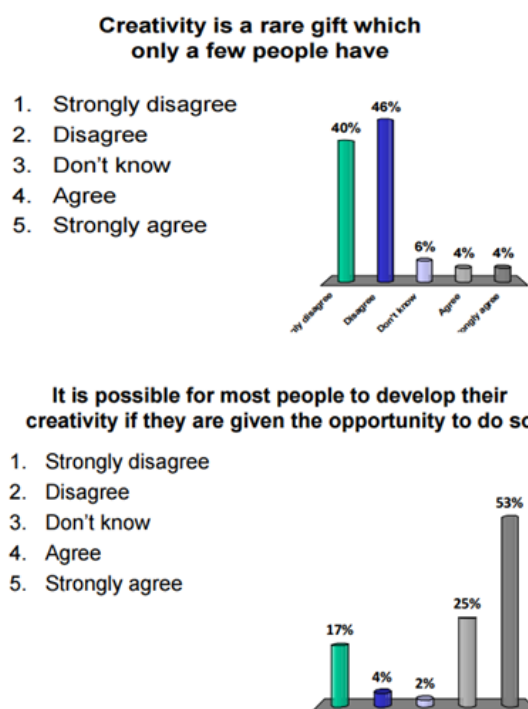
One approach is use of the 'scale and significance' developed by Kaufman and Beghetto⁹ who suggest that human creativity can be categorised into 'Big-C' creativity that brings about significant change in a domain; 'Pro-c' creativity associated with the creative acts of experts or people who have mastered a field, including but not only people involved in professional activity; 'little-c' creativity - the everyday creative acts of individuals who are not particularly expert in a situation and 'mini-c' the novel and personally meaningful interpretation of experiences, actions and events made by individuals.

Central to the definition of mini-c creativity is the dynamic, interpretative process of constructing personal knowledge and understanding within a particular socio-cultural context. Both mini-c and little-c forms of creativity are relevant to higher education learning and curriculum designs, teaching and learning strategies could usefully encourage and facilitate these. One might speculate that participation in these forms of creativity are pre-requisite for Pro-c and Big-C creativity in later life: if we want creative professionals then we should be encouraging our students to be creative. It is however important to note that 'everyday creativity can extend from mini-c to little-c through Pro-c. It is only Big-C that remains eminent creativity (ibid:6) beyond the reach of most of us.

From an educational perspective it might be reasoned that by encouraging and empowering students to use, develop and make claims for mini-c and little-c forms of creativity, we are better preparing them not only for using these forms of creativity in later life but for engaging in more expert-based forms of creativity that emerges through sustained engagement with a particular domain or field of activity.

4 The problem of an education system that values reproduction over making something new and changing what exists

"In 'Reproduction in Society and Culture' Bourdieu and Passeron discuss the 'symbolic violence' of the education system. Systems of symbolization and meaning are imposed on groups or classes of people in a way that "renders them legitimate in the eyes of the beholder"^{10:5}. Pedagogic actions reproduce the values of the teacher....and are given legitimacy through the discourse of education... For Bourdieu and Passeron, those being taught are also in a system that focuses on being able to manipulate and reproduce culture rather than make it or seek to change it (in their terms 'symbolic mastery' is favoured over 'practical mastery'). In other words, the practical skills involved in making culture are given less weight than the study of it. This reproduces a method of education that suits the teacher, someone who has already mastered the academic discourse around the subject, rather than one that suits someone who seeks to creatively expand the subject."^{11:547}

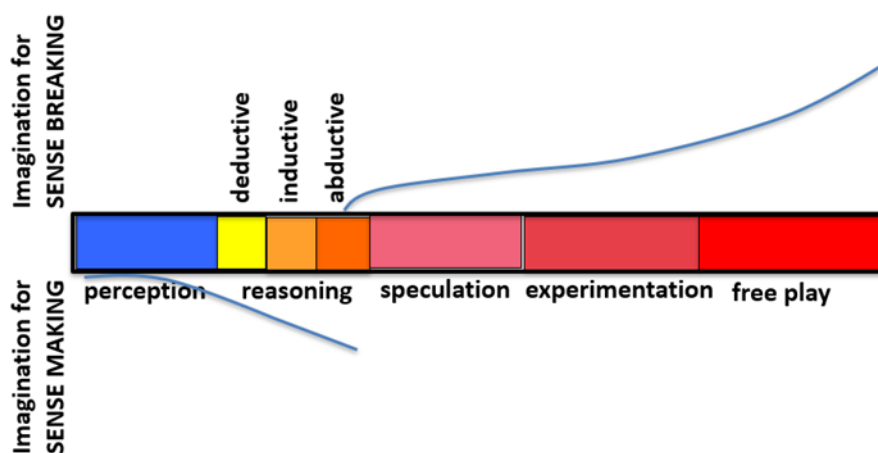


5 The problem is not that creativity is absent but that it is omnipresent. That it is taken for granted and subsumed and integrated within analytic ways of thinking that dominate the academic intellectual territory. Paradoxically, the core enterprise of research - the production of new knowledge - is generally seen as an objective systematic activity rather than a creative activity that combines, in imaginative ways, objective and more intuitive forms of thinking. The most important argument for higher education to take creativity in students' learning more seriously, is that creativity lies at the heart of learning and performing in any subject-based context and the highest levels of both are often the most creative acts of all. The problem then becomes one of co-creating this understanding within different disciplinary academic communities.

6 The problem is that thinking creatively and with imagination is often viewed as something separate to critical thinking considered to be the core of academic rigour and practice, rather than seeing imagination, perception and reasoning as being related and interconnected in an intimate and necessary way to tackle problems, challenges and opportunities as they emerge. Pendleton-Jullian and Brown¹¹ represent thinking as a continuum in which imagination has the potential to connect to both perception and reasoning, 'a productive [and purposeful] entanglement of imagination, reasoning and action.' "In our framework for the pragmatic imagination (Figure 3), the role of the imagination has expanded from a simple imagination versus reason dichotomy to an entire spectrum of activity from perception, through reasoning, speculation, experimentation to the free play imagination we associate with artistic creativity"^{11:73}.

Figure 3 Cognitive Continuum^{11:68}

Seeing imagination in this way and recognising the role of integrative thinking in creative action might be useful in the cultivation of creativity in the HE setting. Imagination enables us to visualize new possibilities, new ideas, new things and new meanings and our creativity enables us to realise the potential and value in these imaginings. Our imagination and creativity enable us to express ourselves, solve problems, realize ambitions, cope with failure and achieve success. "Imagination is opportunistic in its use of available tools in the environment."^{12:4}



If creativity is the productive and inspiring entanglement of perception, reasoning and imagination, an important role for higher education is to help learners develop and use their imaginations as well as their critical thinking and provide them with challenges that enable them to use and integrate all their cognitive abilities. Sternberg and Lubart¹³ argue that we need three different sorts of abilities to be successful in any context: analytical abilities - to analyse, evaluate, judge, compare and contrast; practical abilities - to apply, utilise, implement and activate; and creative abilities - to imagine, explore, synthesise, connect, discover, invent and adapt. Successful people (people who generally achieve their goals and ambitions) do not necessarily have strengths in all areas, but they find ways to exploit whatever pattern of abilities they may have in any given situation or context and align them in a way that value and meaning is created in their lives and in the communities they inhabit in any given situation or context.

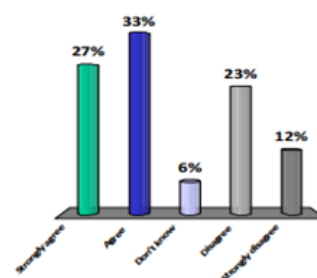
7 The problem that HE teachers' own creativity and creative processes are largely implicit and are rarely publicly acknowledged and celebrated. Although teaching and designing courses are widely seen as sites for creativity HE teachers are reluctant or unable to recognize and reveal their own creative thinking and actions in the many facets of their practice. In the last two decades attempts have been made to address this problem in the UK through the introduction of National Teaching Fellowships and institutional teaching fellowships which evidence and publicly reward individual teachers' commitment to creative innovations in teaching and learning.

8 The problem that using and developing imagination and creativity are rarely explicit objectives of the learning and assessment process (except for disciplines deemed to be creative).

Figure 4 Typical pattern of beliefs in a group of higher education professionals (58 people at the University of Ulster Creativity Conference April 2008).

The development of learners' creativity is rarely an explicit outcome for an academic programme

1. Strongly agree
2. Agree
3. Don't know
4. Disagree
5. Strongly disagree



9 The problem that all too often imagination and creativity can be inhibited by predictive outcome-based course designs, that set out what students will be expected to have learnt with no room for unanticipated or learner determined outcomes. Optimum educational practice is predicated on explicit alignment of learning intentions, teaching and learning practices, resources and assessment criteria and practice within a design framework known as 'constructive alignment'¹⁴.

"Constructive alignment' has two aspects. The 'constructive' aspect refers to the idea that students construct meaning through relevant learning activities. That is, meaning is not something imparted or transmitted from teacher to learner, but is something learners have to create for themselves. Teaching is simply a catalyst for learning: 'If students are to learn desired outcomes in a reasonably effective manner, then the teacher's fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes... The 'alignment' aspect refers to what the teacher does, which is to set up a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. The key is that the components in the teaching system, especially the teaching methods used and the assessment tasks, are aligned with the learning activities assumed in the intended outcomes. The learner is in a sense 'trapped' and finds it difficult to escape without learning what he or she is intended to learn"^{13:2}

After a lengthy historical study¹⁵, I have concluded that our contemporary education systematically trashes creativity and unwittingly punishes students for exercising their imagination. The structural basis for this passive hostility to the imagination is the grid of learning outcomes in alignment with delivery and assessment. My contention is that learning outcomes are only good for uncreative study. For education to cultivate creativity and imagination, we need to stop asking students anxiously to follow demonstrable proofs of learning for which imagination is a liability.^{16,17}

Robert Nelson argues that outcomes-based learning, implemented within a constructive alignment design framework, is detrimental to imagination and creativity. It's not that constructive alignment in the context of intended learning outcomes is wrong, the problem is in the way learning is presented as a predictable almost linear process when, in the real world of difficult problems and challenges, it is anything but predictable and it is certainly not linear. Like learning, imagination and creativity emerge during the messy process of trying to achieve.

Higher education occupies a privileged position in providing educational opportunities that engage people in complex learning and problem working - ideal conditions for the development of creative human potential. Yet all too often we

squander the opportunity to help learners develop their imagination and creative talents, preferring conformity and compliance to more radical and less predictive responses and penalising mistakes rather than seeing them as valuable opportunities for learning.

10 Perhaps there is also a perception amongst HE teachers that encouraging learners' to use their imaginations and creativity involves more work. While many higher education teachers recognize the intrinsic moral value of promoting students' creativity, and understand that certain practices are more likely to encourage learners to use their imaginations and creativity, they balk at what they perceive as the additional work necessary to successfully implement more creative approaches. Furthermore, any conversation about creativity raises many issues and barriers in the work environment that people believe inhibits or stifles their attempts to nurture creativity. Paradoxically, for some teachers these barriers are themselves catalysts for creativity.

11 There is also a problem with what creativity means beyond general concepts like novelty, originality, relevance and utility. While there are numerous definitions of what creativity means, meaning must be constructed by individuals, groups, disciplines and institutions in the contexts and situations in which it is being used. For teachers whose motivation derives primarily from their passion for their subject and research, creativity only has meaning when it is directly associated with the practices and forms of intellectual engagement and problem solving in their discipline. **We lack a universal conceptual language that enables us to share ideas, understandings and practices across disciplinary boundaries.** David Kresch coined the word 'perfinker' to capture the sense that a person perceives, thinks and feels all at the same time. Perhaps we need to invent new words to enhance our conceptual vocabulary.

This 'creativity' thing is a slippery customer isn't it? It has so many dimensions, especially when trying to teach it to students ... is it new, new to me, new to the group, ... is it old, ... is it good, is it bad, is it finished.
Simon Rae (#creativeHE discussion facebook)

12 The problem of teaching for creativity Negative views of the idea that creativity can be taught are based on transmission models of teaching where teachers attempt to transfer their own knowledge and sense-making to students through lecture dominated teaching, where students' engagements in learning are predominantly based on information transfer and are heavily prescribed and controlled by the teacher, and where summative assessment drives the learning process. Such conditions are less likely to foster students' creativity than when a teacher acts as a stimulator, facilitator, resource provider, guide or coach, and where students are given the space and freedom to make decisions about their own learning process and outcomes.

Creativity is more likely to emerge from pedagogies that encourage active (rather than passive) learning, and involve students in social learning in contexts such as problem-based, enquiry-led, work-based, context-based, making, enterprise-led, game-play and role-play. Teaching for creativity requires a pedagogical stance that is active, facilitative, enabling, responsive, open to possibilities, and collaborative, which values process as much as outcomes and failure as a necessary part of the risks that need to be taken to accomplish difficult things.

Teachers operate in strong cultural and procedural environments that have significant impact on what they can do as teachers to promote students' creativity. In spite of, or perhaps because of, these constraints, teachers who encourage learners to use their imaginations and creativity are able to overcome these barriers to create, through their pedagogical thinking and practice, curricular spaces and opportunities for learning that encourage and reward students for their creative efforts.

13 The problem of encouraging learners to 'think outside the box' but 'within a box'. Entreating people to think outside the box of habit has become creativity cliché. The reality is that when we have to solve problems or engage with challenges we are nearly

always working within a set of constraints whether they be resources, people, physical or organisational barriers, logistics, design briefs or any number of things. How often do we hear it said that 'I would like to do this but the rules don't allow it.' We need to encourage learners to work with whatever constraints they encounter to think with imagination and act creatively. The act of overcoming or circumventing constraints is itself a catalyst for ingenuity and resourcefulness and results in ideas and solutions that are appropriate for the particular situation. As Kevin Byron points out in his compelling infographic - imagination cannot be contained or constrained by any set of conditions or circumstances- when people say their creativity has been thwarted it is often a lack of will to Imagine around and through the obstacles.

K.Byron Mar'19

Assumptions on Imagination?

Ahmed Altan is an imprisoned Turkish novelist and from inside the prison he has written this extraordinary book. To quote from a review by Simon Callow in The Guardian (16th March'19):

"It is a radiant celebration of the inner resources of human beings, above all those triggered by the imagination. Its account of the creative process is sublime, among the most perfectly expressed analyses of that perpetually elusive phenomenon."

Without wishing to make light of the dreadful plight of Altan, is there something that we can draw from his experience with regard to how creativity and imagination are nurtured in education? What if.....

- being bored is the best way to access the imagination?
- being trapped in a classroom facilitates creativity?
- too much freedom limits the Imagination?

The pedagogical task for teachers is to encourage and enable learners to use their imaginations even when circumstances are constrained by utilizing the many cognitive tools at our disposal. For example, visualization is a cognitive tool accessing imagination to realize all aspects of an object, action or outcome. This may include recreating a mental sensory experience of sound, sight, smell, taste, and touch.

14 The problem of assessing for creativity While many teachers believe that it is possible to help students use their creative abilities to better effect, far fewer think it is possible to assess these capabilities reliably and even fewer are prepared to try and do it. The views of higher education teachers on whether creativity can be assessed fall into four camps². Some teachers believe that students' creativity is best evaluated through explicit assessment criteria. A second group believes that insufficient attention is given to recognising students' creativity and that at best the evaluation and recognition is implicit. The third group believe that is not possible and or desirable to assess creativity. While teachers in the fourth group value creativity but don't know how to assess it. Looking optimistically at this range of views it is possible to believe that most HE teachers, with appropriate support, guidance, cultural and institutional encouragement, could and would assess creativity in students' higher education learning.

Assessment is often a major inhibitor of students' creativity

1. Strongly agree
2. Agree
3. Don't know
4. Disagree
5. Strongly disagree

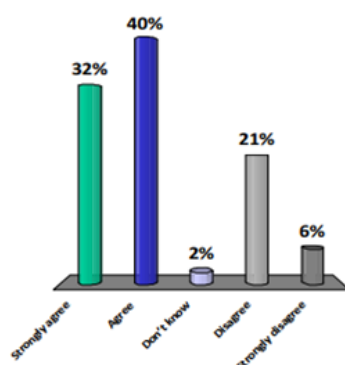


Figure 5 Typical pattern of beliefs in a group of higher education professionals (58 people at the University of Ulster Creativity Conference April 2008).

But one thing is clear, many teachers also believe that assessment is a major inhibitor of students' creativity. Outcomes based assessment that assumes that all learning can be predicted and that the teacher is the only person who can define what the outcomes should be, is antithetic to learning that emerges in unpredictable ways - such as is produced through creative processes that pursue a sense of direction rather than a preordained pattern and specific criteria. This barrier can only be overcome if learners become partners in the assessment process. The metaphor of catching the light through a reflective process might be appropriate for catching creativity which requires people to be conscious of their own means of engaging with complex learning to produce novel products or other achievements.

Figure 6 Typical pattern of beliefs in a group of higher education professionals (58 people at the University of Ulster Creativity Conference April 2008).

Emerging from the imaginative curriculum enquiry conducted between 2002-05, and endorsed on numerous occasions by groups of teachers, is a view that the primary role of the teacher is not to define creativity for students and assess them against their criteria. Rather, it is to help students recognise and understand their own creativity and help them express it and make claims against the evidence they feel is appropriate.

15 There is a problem with understanding what using imagination and creativity means in work practices outside the academy and how creativity relates to innovation.

Moving beyond the academy and disciplines we currently lack the means to show what imagination and creativity means to practitioners in their particular working contexts as they engage in their day to day work. Revealing such meanings and applications would go a long way towards showing the relevance and significance of developing learners' imaginations and creativity in education, for their future work.

In the business world there is a lot of talk of innovation but the way imagination and creativity features in innovation is invisible to all but those who are directly involved. This impacts on the ability of educators to encourage and support the development of future innovators through their own educational practices. Ken Robinson attempts to relate and integrate the ideas of imagination, creativity and innovation.

"Imagination is the ability to step outside of your current space to bring to mind things that aren't present to our senses. I see creativity as putting your imagination to work. [It's a process]. You could be imaginative all day long and never do anything [with it] but to be creative you have to do something with it. One short way of defining creativity is 'applied imagination'. Innovation is putting good ideas into practice. It's the process of implementing [imagined] original ideas."¹⁸

Seeing the problem of creativity in HE as an opportunity to do more

Clearly there are many dimensions to this problem and for each element of the problem there are many possible solutions. Perhaps a more useful way of visualising the 'problem' as a whole is to see it as an opportunity to appreciate what we already do to encourage learners to use their imaginations and creativity and engage with the challenge of imagining and devising new and better ways of enabling them to develop and use their creativity, so as to make a positive difference to their lives.

INVITATION TO THE READER

These are just some of the dimensions of the problem a manifesto for imagination and creativity in HE learning and educational practices is trying to engage with.

Q Are these assumptions and propositions about the problem associated with encouraging and enabling learners to use and develop their imaginations and creativity valid?

Q What other assumptions and propositions might be included?

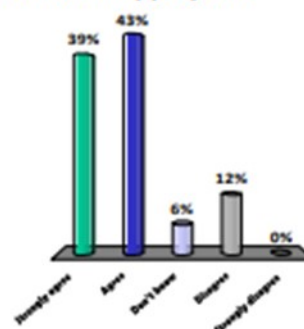
Please share your views and ideas in our two community forums

1 Linked-in 'Creative Academic' group <https://www.linkedin.com/groups/8755256/>

2 Facebook #creativeHE group <https://www.facebook.com/groups/creativeHE/>

The role of the teacher is not to define creativity for students and assess them against what they think it is. Rather, it is to help students understand their own creativity and help them make claims with the evidence that they believe is appropriate

1. Strongly agree
2. Agree
3. Don't know
4. Disagree
5. Strongly disagree



Sources & further reading

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- 15 Nelson R (2018) *Creativity Crisis: Toward a Post-Constructivist Educational Future* Monash University Publishing.
- 16 Nelson R (2018) *Micro-management of learning is killing creativity* Times Higher July 12th 2018
- 17 Nelson, R. (2018) *To Be Creative, Education Must Become Bifocal*, *Philosophical Inquiry in Education*, Volume 25 (2018), No. 2, pp. 221-225
- 18 Robinson, K. (2011) *Out of Our Minds, Learning to be Creative*. London Business Forum video's presentation March 18 2011 Available at: <https://www.youtube.com/watch?v=NtnRaa7AgLs>

Norman Jackson with contributions from Gillian Judson, Keiichi Takaya, Robert Nelson, Kevin Byron

After a lengthy historical study¹⁴, I have concluded that our contemporary education systematically trashes creativity and unwittingly punishes students for exercising their imagination. The structural basis for this passive hostility to the imagination is the grid of learning outcomes in alignment with delivery and assessment. My contention is that learning outcomes are only good for uncreative study. For education to cultivate creativity and imagination, we need to stop asking students anxiously to follow demonstrable proofs of learning for which imagination is a liability.^{15,16}

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Key Discussion Points Week 2

The value of imagination and creativity in H.E.



STEPS TO A MANIFESTO TO ADVANCE IMAGINATION & CREATIVITY IN HE LEARNING & EDUCATIONAL PRACTICE

Introduction

The focus of Week 2's discussion was the (often implicit) assumptions we hold regarding the place of creativity and imagination in higher education. Specifically, participants were invited to consider the potential reasons set out in the discussion paper, and respond to the questions:

- *Q Are these assumptions and propositions about the problem associated with encouraging and enabling learners to use and develop their imaginations and creativity valid?*
- *Q What other assumptions and propositions might be included?*

The conversation

Some new participants joined the second week of the conversation. 19 people engaged during the week: Kevin Baron, Teryl Cartwright, Ulf Daniel Ehlers, David Fuller, Emma Gillaspay, Craig Andrew Hammond, David Heschel, Norman Jackson, Gillian Judson, Paul Klein, Paula Nottingham Simon Rae, Sandra Sinfield, Heather Somewhat, George Station, Keiichi Takaya, James Wadsworth, Holly Warren and Jenny Willis. A few additions to their comments were received in subsequent weeks.

What is the problem with creativity in HE?



Key points of discussion

As for Week 1, this synopsis records the key themes discussed, as they arose in the conversation. For this reason, they are often iterative. Readers are, as always, encouraged to use this summary as an indicator only, and to dip into the conversations themselves in order to appreciate the richness of each discussion.

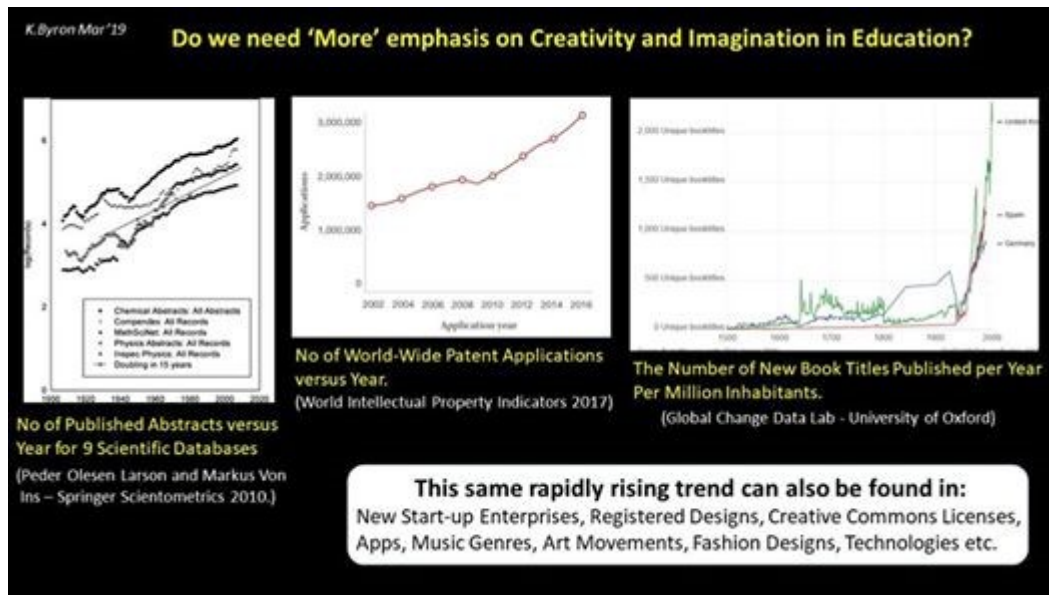
Values associated with the term 'creativity', how to raise its status

- Creativity is not associated with role of HE
- Would changing the terminology change attitudes?
- Arguments for and against invented terms
- Academia's attempts over many years to raise the status in HE

Assumption that creativity is contradictory to academic thinking

- This features as both a problem and an assumption in the manifesto
- Link to assumption that one either has or doesn't have creativity

There is too much creativity, it needs stripping back



- We need to distinguish between valuable and needless creativity
- This brings us back to individual values

Variability of creativity over time, social conditions

- Recognise that social context may inhibit or encourage creativity

Confusion of mini, small, pro and big c

- We also need to distinguish between forms of creativity, from the personally meaningful to big C

Manifesto by Craig A Hamond, teaching PGCE students

- Some practical examples

Future skills

- Future of jobs report arguably creativity is in each dimension
- Again, need to make explicit
- Not so much creativity as imagination and curiosity



Need for self-confidence to be creative

- To move from imagination to creation requires courage

Power of play and creativity

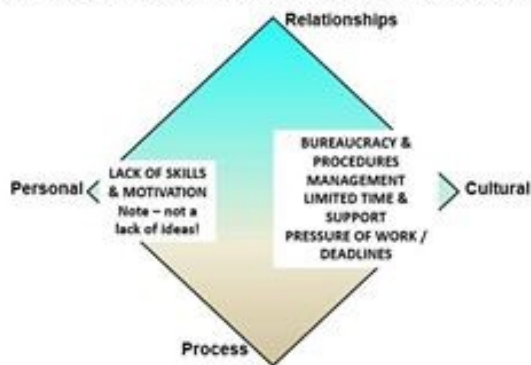
- Does creativity presuppose knowledge?
- What about 'Eureka' moments?
- Seeing things (maybe differently)
- Difference between adult and child play, but still important



Role of will and motivation

- Without the will/motivation we will never achieve anything challenging
- How to wake up intrinsic motivation?
- Connect to the things learners are interested in
- Relates to conviction and may require courage
- Practical needs e.g. to support a family, many constrain conviction

Factors that discourage creativity at work in one University



Factors that encourage creativity at work in one university



Source: Norman Jackson, University of Ulster Creativity Conference (2008)

Hierarchy of needs to be met before creativity

- As in Maslow's model, basic needs must be met before we can aspire to higher forms such as self-fulfilment

Make explicit the presence of creativity

- Creativity is embedded in many activities, not recognised because of this, so need to be made explicit
- Creativity relates to achievement, which in turn contributes to personal wellbeing

Assumption that creativity is good

- There may be a dark side to creativity

Creativity as expression of human freedom

- But recognise constraints (moral, practical)

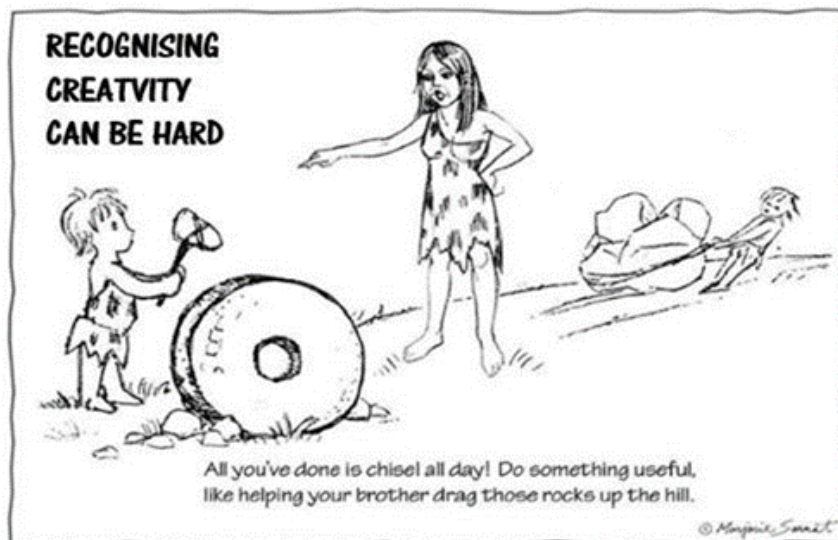


Boredom stimulates creativity

- American research shows boredom stimulates creativity

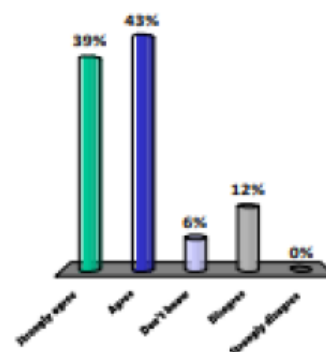
Assessment of creativity

- Should we assess creativity?
- If yes, how?
- Needs to be referenced to the individual not the norm
- Assessment is more relevant in FE/HE than in younger years
- Distinguish between output and process



The role of the teacher is not to define creativity for students and assess them against what they think it is. Rather, it is to help students understand their own creativity and help them make claims with the evidence that they believe is appropriate

1. Strongly agree
2. Agree
3. Don't know
4. Disagree
5. Strongly disagree



Norman Jackson, University of Ulster
Creativity Conference(2008)

Summary

The discussion confirmed that participants value the role of creativity in HE but recognise that it is often undervalued or implicit in other achievements. There is therefore a need to make it more explicit. This is in the interests of both society and the individual. Recognition may stimulate motivation, which is a fundamental requirement.

Confusion between creativity, imagination and production is an issue.

The most popular thread of this discussion was the question of assessment. The difficulties of assessing it in HE are recognised: these include both practical and ethical dimensions. There is a strong sense that any assessment should be individual, referenced to development from their previous stage.

Jenny Willis

With thanks to Natalia Khozyainova, Norman Jackson and Kevin Byron for illustrations

DISCUSSION PAPER 3:

What does being creative mean in HE learning and achievement? Steps to a Manifesto to Advance Imagination and Creativity In Higher Education Learning and Educational Practice

In a world consumed with uncertainty and a growing sense of the obsolescence of our education systems, how can we ensure the success of ourselves as individuals, our communities, and the planet? We need to evolve education¹ Imagining a different future for higher education in which more attention is paid to the development of learners' imaginations and creativity, is one way of evolving education in a way that will facilitate the wellbeing and success of learners, our societies and our planet. We will need all our imagination and creativity to secure this future.

In the third discussion paper to support a manifesto, we examine some of the ways in which creativity is defined, and how it is perceived and understood in the academy. The paper draws on a number of studies and surveys in UK HE. Readers are invited to draw attention to other studies to expand the evidence on which a manifesto can be based.

What do we mean by creativity? And how does it relate to imagination and innovation?

Vygotsky^{2:7} argued that 'any human act that gives rise to something new is... a creative act, regardless of whether what was created is a physical object or some mental or emotional construct that lives within the person who created it and is known only to him.' If we accept this conception then we are all creative and we are all continuously creating. Being creative is a fundamentally human characteristic.

Fundamentally creativity is about bringing things e.g. ideas, solutions, objects, products or services, processes, performances and practices, into existence. Creation occupies a continuum from inventing, producing or doing entirely new things that no-one has done before, to inventing, producing or doing entirely new things for oneself. The word 'creativity' is used in different ways, in different contexts. The problems of definition lie in its particular associations with the arts, in the complex nature of creative activity itself, and in the variety of theories that have been developed to explain and situate it. Academics are not so concerned with precise definitions as with their own perceptions of creativity in the subjects and other contexts in which they work.

There are many (over 100) definitions of creativity some of which are shown below. Most recognise the idea of originality (new to the individual or more widely), and the ideas of value and meaningfulness. The idea that creativity involves *imagining* something that does not exist and engaging in actions that turn what was imagined into something real and tangible. In this way an act of being creative involves both thinking and action - it's a process.

Innovation is often associated with creativity and there are just as many definitions (over 60) many of which link the idea to the commercial world e.g. "Innovation is the successful conversion of new concepts and knowledge into new products, services, or processes that deliver new customer value in the marketplace." (American Society for Quality- ASQ). But the term can be equally applied in social contexts where an innovation is, "a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues to both the individual and society as a whole."^{3:1}

While creativity is related to the generation of new and valuable ideas, innovation is more about the implementation of those ideas. Most innovations begin with creative ideas, but many highly creative ideas are never implemented or adopted. But achieving an innovation may also involve creativity as innovators strive to accomplish their innovation. Whereas in business innovation is often related to whole markets, in higher education the perception of newness can be very local. "An innovation in one situation may be something already established elsewhere, butinitiative takers and participants see it as innovation in their circumstances. Such changes may be new to a person, course, department, institution or higher education as a whole."^{4:10}

What does being creative mean in
HE learning and achievement?



Some definitions of creativity

Included below are some example definitions from the world of education, business and psychology that illuminate variations in orientation towards either: a purely cognitive process, a process that involves both cognition and action, and a process that situates cognition and action within an environmental context.

- Creativity is the production of novel and useful ideas in any domain⁵
- Creativity is the act of turning new and imaginative ideas into reality. It involves two processes: thinking then producing. Innovation is the production or implementation of an idea. If you have an idea but don't act on it, you are imaginative but not creative.⁶

The world of education is concerned with ideas and with changes in understanding so this definition by Dellas and Gaier is particularly useful. It highlights in a comprehensive way that creativity can and often does involve all of our senses not just cognition.

- Creativity is the desire and ability to use imagination, insight, intellect, feeling and emotion to move an idea from one state to an alternative, previously unexplored state⁷

The educationalist Erica McWilliam connected the idea of creativity to habit.

- 'Creativity is the defeat of habit by originality'⁸

McWilliam also draws attention to the way creativity often involves combining and integrating in some way two or more existing things.

- It may help teachers to imagine the sort of pedagogy that builds creative capacity by starting from the relatively simple idea of creativity as *making a third 'thing' from two existing entities or ideas*, rather than making something from nothing. In other words, creative capability is the ability to hold disparate and even incommensurate things together long enough to generate a new or third space or idea.⁹

According to Barron¹⁰ and now widely accepted, any creative act must satisfy two fundamental criteria namely: originality - something that is new like an idea, behaviour or something we have made, and meaningfulness - the act or result has meaning and is significant to us. However, our personal creativity is located in a social-cultural context and recognition within this social context requires that which we believe to be creative, to be recognised by others in the social group. Creativity is 'a socially recognised achievement in which there are novel products'^{11:442}

Teresa Amabile captures this social dimension very well together with the idea of 'appropriateness'.

- Creativity is the production of novel and useful ideas in any domain. In order to be considered creative, a product or an idea must be different from what has been done before.But the product or idea cannot be merely different for difference sake; it must also be appropriate to the goal at hand, correct, valuable, or expressive of meaning⁵

Creativity does not just happen in a vacuum. Individuals are located in the circumstances and situations that form their lives and Rogers' definition draws out the fact that what results from our creativity emerges from our life. In fact, we can view creativity, like learning, as an ecological phenomenon emerging in the course of our interactions with our environment as we try to accomplish the things we care about¹² in a manner described by Rogers¹³

- Creativity is 'the emergence in action of a novel relational product growing out of the uniqueness of the individual on the one hand, and the materials, events, people, or circumstances of his life'¹²

These relational products might be ideas, material or virtual objects, practices, performances and processes. Knight¹⁵ adds more details.

- Creativity constructs new tools and new outcomes - new embodiments of knowledge. It constructs new relationships, rules, communities of practice and new connections - new social practices.^{15:1}

Definitions that highlight the cultural effects of creativity, such as might be achieved with a new breakthrough idea or theory in a discipline emphasis change in a domain. Such definitions also highlight the role of acceptance of novelty by the members of the domain.

- Creativity is any act, idea, or product that changes an existing domain, or that transforms an existing domain into a new one. What counts is whether the novelty he or she produces is accepted for inclusion in the domain¹⁶

Integrative definitions

In his definition of creativity Ken Robinson tries to relate and integrate the ideas of imagination, creativity and innovation.

- Imagination ... is the ability to step outside of your current space to bring to mind things that aren't present to our senses. I see creativity as putting your imagination to work. [It's a process]. You could be imaginative all day long and never do anything [with it] but to be creative you have to do something with it. One short way of defining creativity is 'applied imagination'. Innovation is putting good ideas into practice. It's the process of implementing [imagined] original ideas.¹⁶

All creative processes are intermingled with value judgments and that's critically important because you to know which values to apply and why to what sort of work. You have to apply what's relevant. So creativity is about process, originality and value. I define creativity 'as the process of having original ideas that have value.'¹⁶

Tina Seelig's invention cycle¹⁷ defines and connects imagination, creativity, innovation and entrepreneurship in the following way.

- Imagination is envisioning things that do not exist.
- Creativity is applying imagination to address a challenge.
- Innovation is applying creativity to generate unique solutions.
- Entrepreneurship is applying innovation, scaling unique ideas, by inspiring others' imagination.

Creativity in the service of production and/or discovery

Macdonald^{18 123-24} distinguishes two different kinds of creativity namely, production-related and discovery-related. These forms align with the product- and process- oriented creative experiences of academics. By production-related creativity, Macdonald doesn't only mean novel inventions and product designs, he means the creation of something of value that never existed before, in any creative medium: canvas and paint, clay, bronze, electronics, architectural materials, machined metal, welded metal, words, biochemistry, and an infinite number of other media for creative self-expression. The product or creation need not be novel in all respects, but something about it must be unique, and it must have value – aesthetic value, utilitarian value, inspirational value, or value of some other kind.

Discovery-related creativity has more to do with seeing something in a uniquely different (or at least unusual) way. One of its manifestations is the scientific breakthrough where insight leads to yet another layer being peeled off the onion of truth. Another manifestation of discovery-related creativity is spiritual seeing, where the individual changes to a new and more enlightened perspective on something. But the task of expressing these insights-of-discovery to others involves returning to production-oriented creativity in order to share the insights that have been gained. This insight means that any sharing of creative self-expression must involve a 'product' or 'performance' in the case of oral communication or physical demonstration.

What Does Being Creative Mean to Academics/Faculty?

The first thing to say is that most academics are probably not overly interested in the idea of creativity. They just take it for granted that it is part and parcel of their everyday practice but they don't need to talk about it: nor are they encouraged to do so.

"What emerges from this research is that issues of definition that so concern creativity researchers are of little concern to those who are engaged with and interested in creativity in learning and teaching. There is an obvious fascination with creativity, but it is also apparent that creativity is not part of the daily academic educational discourse...."^{19:10}

Furthermore, academics do not think in terms of definitions, rather, they hold a concept or set of ideas in their mind that they associate with a particular thing. So, if a group of academics and others who support students learning and development are invited to share their understandings of what being creative means, responses reflect not only thinking in certain ways and doing certain things, they also involve how it makes you feel, your attitudes and dispositions and the effects or products of creativity (Figure 1)²⁰

Figure 1 summary of responses from many institutional surveys (unpublished data).

If the question is more focused, 'what does being creative mean to you in your own work contexts?' and people are able to quantify the relative importance of particular things (Figure 2), the highest rated ideas are using imagination, having ideas that are new to me, solving problems, generating something new and improvising where necessary.

At this level, there seems to be a general consensus amongst institutional communities as to what being creative means and it is likely that if you ask this question of higher education teachers anywhere in the world you will get a broadly similar set of responses because these basic concepts of creativity transgress cultural domains. These conceptions provide a starting point for professional conversations about creativity in Higher Education teaching and learning practices within disciplinary domains.

what does being creative mean to you?



Ways of thinking

Having new ideas – original to self
Inspiring – energising ideas
Having an open mind
Thinking that is different to the norm
Having ping moments

Doing/accomplishing things

Doing new things
Problem solving
Connecting things
Communicating telling stories, selling ideas, persuading others
Making new things
Performing

Attitudes

Curiosity
Willing to engage/explore
Enthusiasm
Being proactive
Willing to take risks
Determination
Obsession

Effects

Causes change
New ideas
New things
Innovation
Adaptation
Changes you

Feelings

Its about expressing yourself
It feels personal to begin with but latter it might be something different
Feels exciting
Can be very uncomfortable
Feels great ping moments

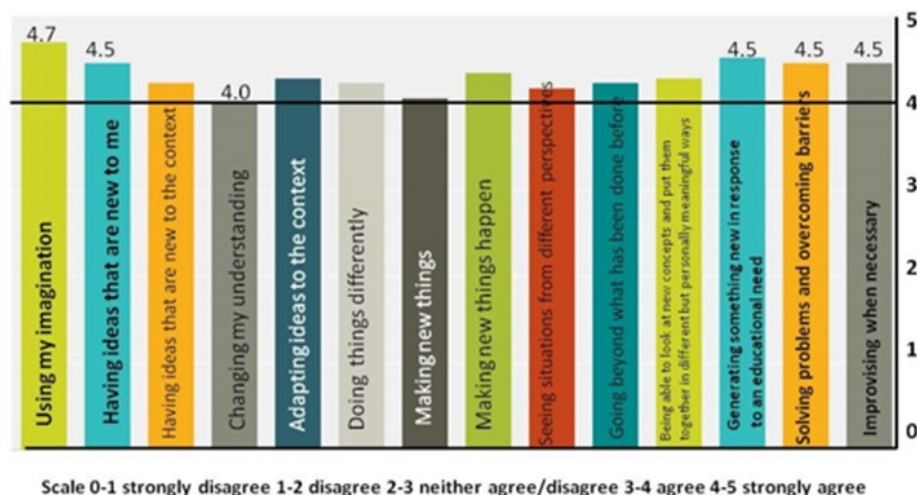


Figure 2 Typical views of academics in response to the question, 'what does being creative mean to you in your own work contexts?' The survey has been conducted many times in the UK with a similar pattern of responses. In fact similar responses have been noted in Saudi Arabia and China.

Equally important is the widely held belief amongst higher education teachers that creativity is not a rare gift and the preserve of a few gifted people and most (but not all) higher education teachers agree that it is possible,

with the right opportunity, for people to develop their creativity.

How Do Academics/Faculty Experience Creativity in Learning and Teaching Practice?

Paul Kleiman's phenomenographic study¹⁹ involving 12 universities identified five main ways of understanding creativity in the context of learning and teaching namely: a constraint-focused experience; a process-focused experience; a product-focused experience; a transformation-focused experience; a fulfilment-focused experience. All or only some of these may be present in any experience.

1 Creativity as a *constraint-focused* experience: In this category creative experience is described in terms of constraint or as a form of resistance to compliance and orthodoxy.

2 Creativity as *process-focused* experience : There are three conceptual variants, i.e. those processes that lead to explicit outcomes or products; those that lead to implicit outcomes; and those that are not necessarily linked to any outcome. The latter recognises that creativity sometimes requires an acceptance of a lack of structure and direction, e.g. 'playing for the sake of playing' [in the hope that something useful will emerge].

3 Creativity as a *product-focused* experience: In this category the primary focus is on the production of either something that is simply new and original, or the production of something in which notions of novelty and originality combine with notions of utility and value. The creation of something new or original ranges from something relatively modest to something that is truly groundbreaking or paradigm shifting. It also ranges from a 'democratic' notion that 'we are all creative' to the notion of creativity as the province of the great individual or individual genius. At the modest end of the creative continuum, there is a certain hesitancy about describing the experience. At the other end of the continuum, the view emerged that creativity in learning and teaching needs to involve or consist of something significantly new or original. Also in this product-focused category, creativity consists of a combination of novelty and originality with value and utility. It is not sufficient for a creative action or outcome simply to be new and/or original: there has to be a sense or recognition that the action or outcome has some utility and value.

4 Creativity as a *transformation-focused* experience: In this category creativity in learning and teaching is experienced as engagement in a process that is transformative either in itself, or undertaken with the intention (implicit or explicit) of being transformative. Engagement in such a process may derive from the desire to change (intrinsic motivation) or as a response to a change event (extrinsic motivation) - whether intended or unintended. It is in this category that encountering and exploiting chance and risk-taking appear as important factors.

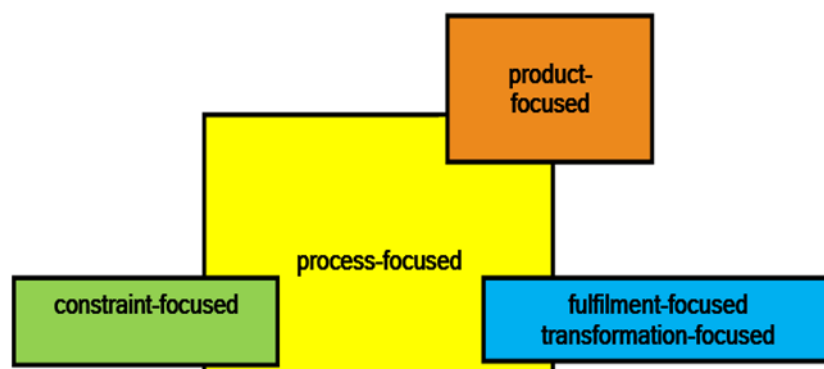
Creativity as a *fulfillment-focused* experience: In this category, the experience of creativity is linked strongly to notions of personal and professional fulfillment combined with an acknowledgement that creativity involves a personal commitment or investment.

There are echoes here of Maslow's Hierarchy of Needs, in which self-actualisation or fulfilment is at the highest level of the hierarchy. Maslow^{20,21} believed that human motivation is based on people seeking fulfilment and change through personal growth. Self-actualized people are those who were fulfilled and doing all they were capable of. The growth of self-actualization²² refers to the need for personal growth and discovery that is present throughout a person's life. For Maslow, a person is always 'becoming' and never remains static in these terms. In self-actualization, a person comes to find a meaning to life that is important to them. For some people self-actualization can be achieved through creating works of art or literature, for others through, science or technology, sport, services to society -like medical, educational or social work, or within a corporate setting.

If the categories identified by Kleiman are placed on a continuum, creativity as a constraint-focused experience would be situated at the 'lower' end of the continuum: the constraint is often the trigger for powerful emotions like dissatisfaction, anger, frustration. On the positivity side, a reaction to a constraint might reveal an idea to overcome it that inspires. All these emotions stimulate the motivation to do something.

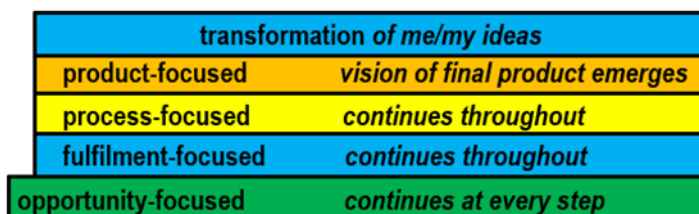
Creativity as a fulfilment-focused experience would be positioned at the 'higher' end of the continuum. It would also appear logical that creativity as a process-focused experience ought to precede creativity as a product-focused experience. However, that is problematic as it is clear from the research data that there is a conception of creativity-as-process that is not linked to product. The idea of creativity as transformation might also be expected to occupy space at the fulfilment end of the continuum.

Figure 3 Possible way of representing the continuum of the ways in which academics experience their own creativity in teaching and learning experiences, based on Kleiman¹⁹



These categories are useful in understanding an experience within which creativity emerges in action although, they may be much more continuous and integrated in an experience and the idea of opportunity might be a stronger motivational force than the idea of constraint (Figure 4)

Figure 4 An alternative way of representing the continuum of the ways in which people experience their own creativity.



What is particularly interesting about Kleiman's categories is the way they can be interpreted through a theoretical model developed by the philosopher John Dewey²³ summarised in Figure 4 and described below.

"For Dewey, what brings action and creativity together is human experience, defined precisely by the interaction between person and environment and intrinsically related to human activity in and with the world. ... Action starts....with an impulsion and is directed toward fulfillment. In order for action to constitute experience though, obstacles or constraints are needed. Faced with these challenges, the person experiences emotion and gains awareness (of self, of the aim, and path of action). Most importantly, action is structured as a continuous cycle of "doing" (actions directed at the environment) and "undergoing" (taking in the reaction of the environment). Undergoing always precedes doing and, at the same time, is continued by it. It is through these interconnected processes that action can be taken forward and become a "full" experience."^{24 2-3}

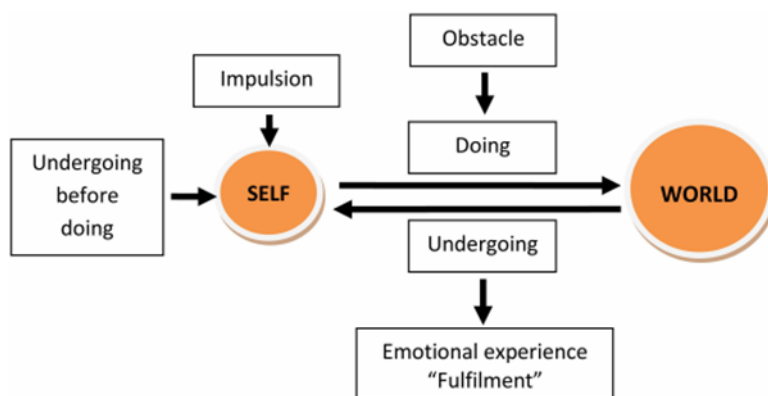


Figure 5 Dewey's model of human experience developed by Glaveanu et al ^{24:2}

We can connect this model of human experience to Paul Kleiman's research on how academics understand their creative experience. If we assume that action, at least in part is directed to the creation, then all the categories identified in Kleiman's study are present in the Dewey model of creative interaction with transformational personal growth taking the form of 'undergoing'.

What emerged from this research study is a deeper understanding of:

"the complexity and richness in the way academics perceive their experience of creativity in learning and teaching. The centrality of creativity-as-transformation, and the importance of creativity in relation to personal and/or professional fulfilment, poses a series of challenges to the current focus on creativity in higher education. The outcomes suggest that there is much more to the experience of creativity in learning and teaching than simply 'being creative'. Furthermore, the results indicate that a focus on academics' experience of creativity separated from their larger experience of being a teacher may encourage oversimplification of the phenomenon of creativity, particularly in relation to their underlying intentions when engaged in creative activity." ^{19:13}

Given that higher education is fundamentally concerned with encouraging and enabling people to develop their potentialities, and given the value HE teachers place on their own growth as they engage in processes that require their creativity, there is a good argument for utilizing, in educational practice, a concept of creativity that is more concerned with transformation than with originality. This would place creativity at the heart of teaching and learning.

Suggestion: Creativity in the context of both society and the individual could be considered transforming instead of "novel" or "original".
Teryl Cartwright

Interactional, ecological and lifewide perspectives on creativity

Galveanu and others²⁴ argue that creativity should be viewed through an interactionist perspective.

"action theories of creativity start from [the] epistemological premise of interaction and interdependence. Human action comprises and articulates both an "internal" and "external" dynamic and, within its psychological expression, it integrates cognitive, emotional, volitional, and motivational aspects. Creativity, from this standpoint, is in action as part and parcel of every act we perform Creativity exists on the other hand also as action whenever the attribute of being creative actually comes to define the form of expression (and, as such, we can talk of "creative work" as different from other types of work which, in themselves, don't completely lack the attribute of creativity)." ^{24:2}

Drawing on Dewey's interactional model described above, these researchers focused on creative activity within five creative domains: art, design, science, scriptwriting and music composition. By applying an action framework they explored the generalities and specificities of the doing-undergoing cycle in each domain and across domains. The study revealed 'a patchwork of similarities and differences between the five domains' Table 1.

Table 1 Summary of creative activity in five domains ^{24:12}

	Art	Design	Science	Scriptwriting	Music
Impulsion	<i>Create/express</i>	<i>Create/solve</i>	<i>Solve/curiosity</i>	<i>Create/express</i>	<i>Create/express</i>
Obstacle	<i>Tools/material</i>	<i>Budget/tools</i>	<i>Tools/material</i>	<i>Budget/time</i>	<i>Tools/time</i>
Doing	<i>Idea/work/idea</i>	<i>Idea/work/idea</i>	<i>Work/idea/work</i>	<i>Idea/work/idea</i>	<i>Idea/work/idea</i>
Undergo (MAT)	<i>Physical prop.</i>	<i>Physical prop.</i>	<i>Laws/norms</i>	<i>Laws/norms</i>	<i>Physical prop.</i>
Undergo (SOC)	<i>Colleagues</i>	<i>Client</i>	<i>Colleagues</i>	<i>Client/ colleagues</i>	<i>Client/ colleagues</i>
Emotion	<i>(DIS)Satisfaction</i>	<i>(DIS)Satisfaction</i>	<i>(DIS)Satisfaction</i>	<i>(DIS)Satisfaction</i>	<i>(DIS)Satisfaction</i>

This study highlights the importance of the domain specific features of creative action and the educational consequences of preparing learners to participate in their own creative action. For these researchers “educators should focus on the nature and quality of what we called here ‘undergoing before doing’ - the stage of preparing oneself for creative activity on the long run but also before working on particular projects.”^{24:13}

Jackson^{25,26} is also proposing an interactional model for viewing creativity arguing that learning, development, creativity and achievement are phenomena that emerge from and through an individual’s interactions and relationships with their environment. This can be represented schematically through the concept of an individual’s learning or practice ecology (Figure 6).

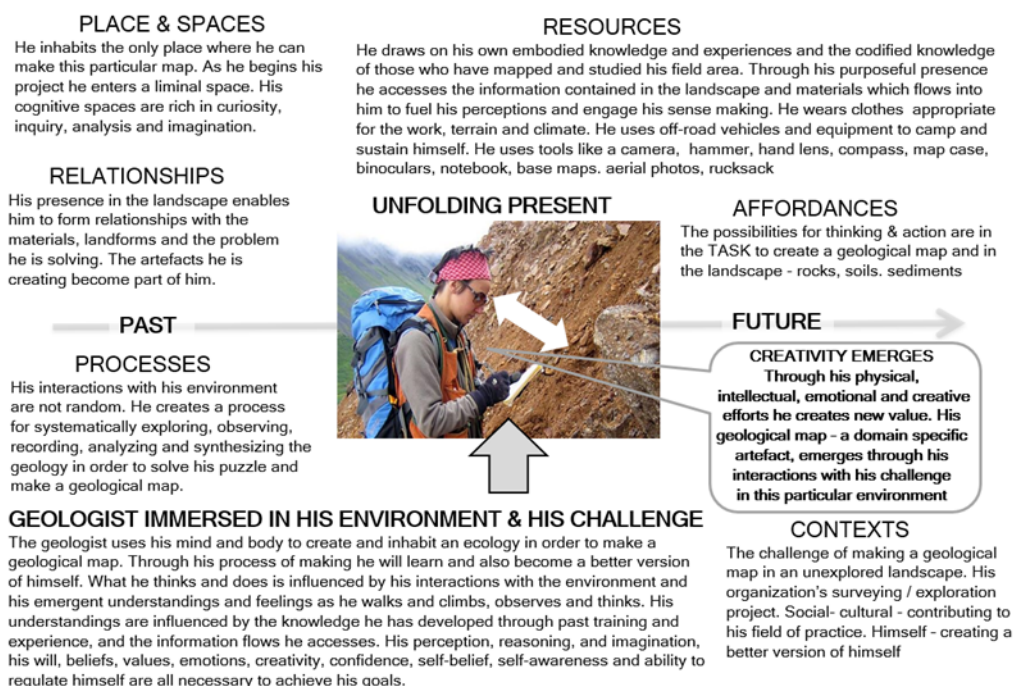
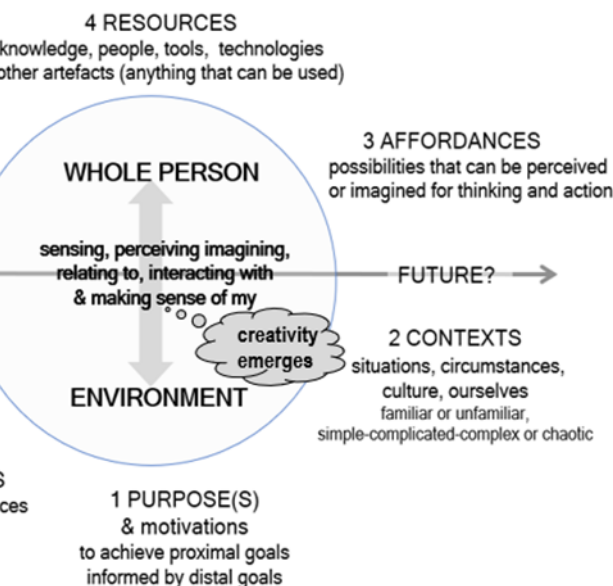
Figure 6 Learning ecology heuristic to make explicit some of the complexity involved in significant acts of learning, doing and achieving. The labels explain an aspect of the ecology but do not say how they interact. This is revealed in narratives of actions and activities. The components of the ecology do not stand in isolation. They can and do connect, interfere and become incorporated into each other.

A learning ecology is also an ecology of practice in which the primary purpose of practice is learning. The same framework can be used to characterise any

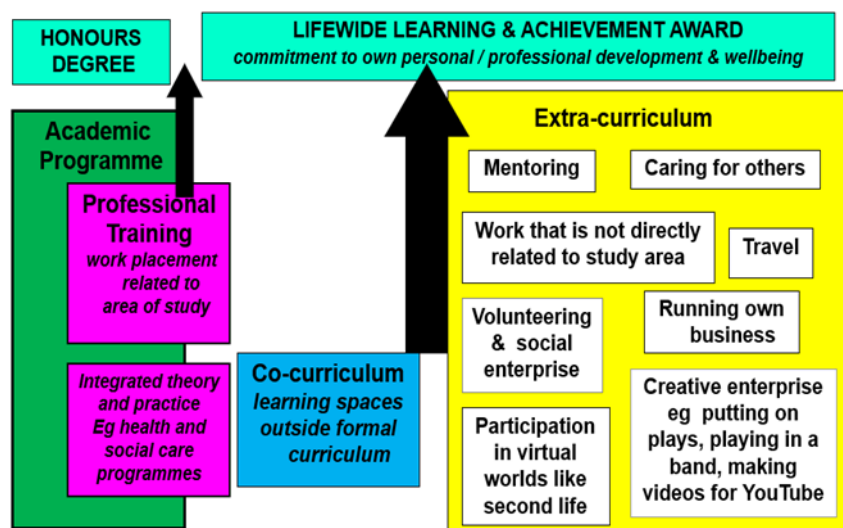
complex practice where learning is a ‘bi-product’ of trying to achieve something²⁶. Ecologies for learning and practice have temporal as well as spatial dimensions, they enable the maker to connect different spaces, places, resources, contexts, situations, relationships, activities and themselves in ways that they find meaningful, through which they create new meaning and effect various transformations (personal and material).

Figure 7 illustrates how this concept can be applied to real practice using the example of a geologist making a geological map.

The components of an ecology for learning are woven together by the maker in a part deliberate, part opportunistic act of trying to achieve create new value. For example, Figure 7 illustrates how the conceptual framework can be used to map and explain the work practices of a field geologist making a geological map (the artifact or new value that is created through his ecology). His ecology for learning and practice enables him to think and act in an ecological (connected, relational and integrated) way, to perceive (observe, sense and comprehend the information flows), to imagine (conceptualise and modify what has been observed in order to create possible meanings and new interpretations), to reason (analyse and critically evaluate observations and make judgements), to reflect on what has been seen and experienced to make better sense of it and learn from the experience.



One of the most important reasons for developing such a framework is to show how learning and practice are entangled and to show the relevance of learning in a higher education environment to practice in work.



The environment within which an HE learner can be creative is not restricted to their academic institutional environment, rather it extends to all the spaces and places they inhabit simultaneously across their lives, while they are studying - their lifewide curriculum²⁸ (Figure 8).

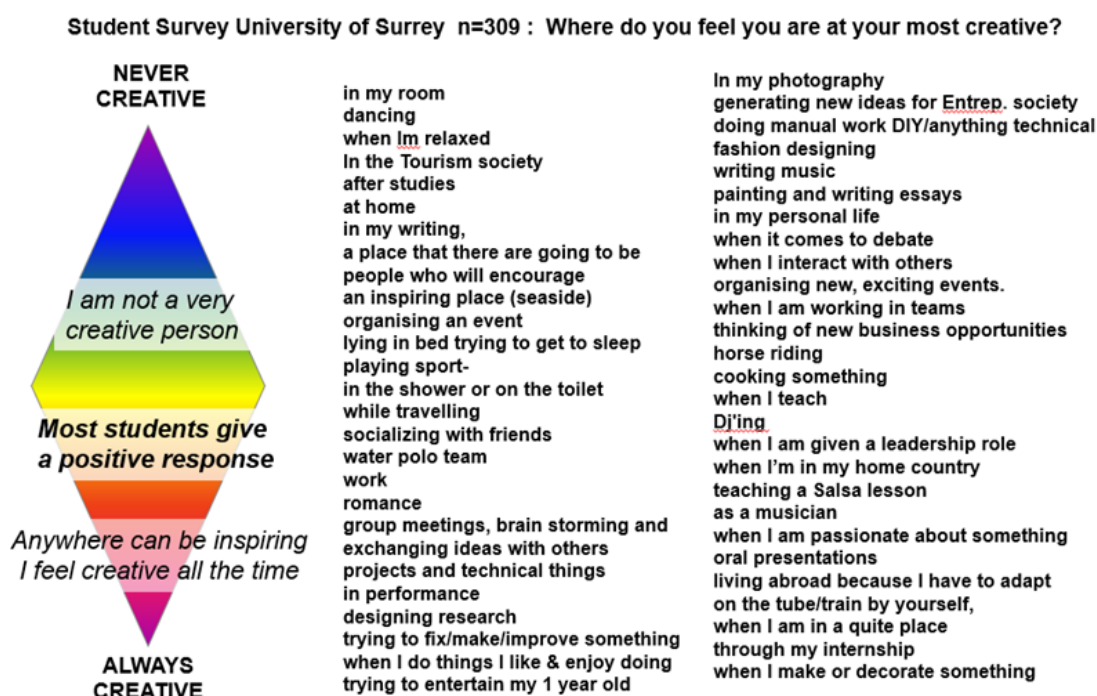
Figure 8
Concept of a lifewide curriculum²⁸

Broadening the concept of curriculum and learning experiences that afford learning and development enables higher education to embrace the whole of a student's learning life in which they use

and develop their creativity and to gain recognition for their creative achievements. It also enables institutions to recognise where learners are creating their own ecologies for learning²⁶

When students are asked how creative do you think you are? On a scale from never to always creative, most students give a response that is positive. When asked 'where do you feel you are at your most creative?' surveys of HE students reveal many places outside the academic curriculum where they utilise and develop their creativity. But Willis²⁹ highlights the problem that, "students do not fully appreciate or value the learning gained through their everyday lifewide experiences." But "perceptions of capability developed through everyday life experiences can be changed if students are encouraged to engage in formal educational processes that raise self-awareness through the production of personal maps and narratives and the processing and reflection that attends such processes."^{29:13} In other words, to gain the benefits of embracing the affordances for learning and achievement, including creative achievement, through a lifewide curriculum requires investments in the formal curriculum to develop learners' self-awareness of what learning and development mean, and the development of reflective practices and techniques that enable them to record and evidence such learning so that they are able to gain recognition.

Figure 9 Survey of students views at the University of Surrey



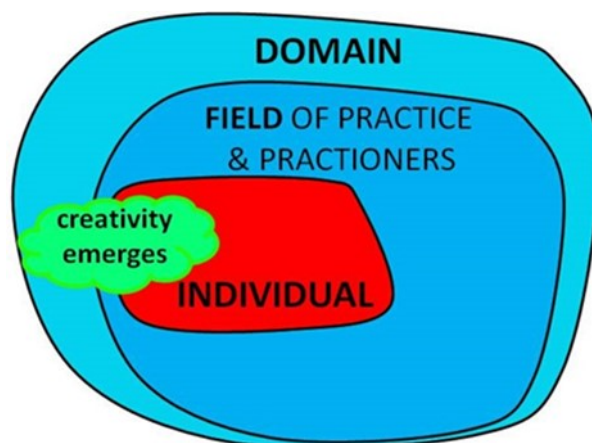
Creativity in the Disciplines

Any consideration of creativity in higher education needs also to take into account the disciplinary perspective, since subject- or multi-subject based departments, schools and faculties form the main academic organisational units through which teaching and learning is organised in universities. Furthermore, subjects or disciplines are the primary cultural and knowledge production domains in higher education and within each domain there is a field of social practice composed of people who identify themselves with the thinking and practices and normative behaviours of the domain.

In the 1990's Mihaly Csikszentmihayli undertook an interview-based study of people who had achieved eminence in their chosen field - the assumption being that great achievement in a field is an indicator of significant creativity. His book, *Creativity: Flow and the psychology of discovery and invention*,^{30:314} is full of interesting insights some of which are captured in these passages.

‘Creativity is a process that can be observed only at the intersection where individuals, domains and fields interact. This environment has two salient aspects: a cultural or symbolic aspect called the domain, and a social aspect called the field’.^{30:314}

Figure 10 Representation of Csikszentmihayli’s social-cultural model.



‘Creativity cannot be understood by looking only at the people who appear to make it happen... creative ideas vanish unless there is a receptive audience to (appreciate), record and implement them. And without the assessment of outsiders, there is no reliable way to decide whether the claims of a self-styled creative person are valid. According to this view, creativity results from the interaction of a system composed of three elements: a culture [or domain] that contains symbolic rules, a person who brings novelty into the symbolic domain, and a field of experts who recognize and validate the innovation. All three are necessary for a creative idea, product or discovery to take place.’^{15:6}

‘Creativity occurs when a person, using the symbols of a given domain such as music, engineering, business, or mathematics, has a new idea or sees a new pattern and when this novelty is selected by the appropriate field for inclusion into the relevant domain. The next generation will encounter that novelty as part of the domain they are exposed to, and if they are creative, they in turn will change it further.’ ...When viewed in these terms ‘creativity is any act, idea, or product that changes an existing domain into the new one. And the definition of a creative person is: someone whose thoughts or actions change a domain, or establish a new one.’^{15: 27-8}

These conceptions of creativity as being socially and culturally constructed within well defined domains have three important consequences for creativity in higher education.

- Firstly, the creative products of the members of disciplinary fields will be judged by peers and accepted or rejected. This is the fundamental process of peer review of research and scholarship in the field.
- Secondly, it might be expected that the creativity of undergraduate and postgraduate students who are serving their cognitive apprenticeship in the discipline, will be judged by disciplinary practitioners (their teachers).
- Thirdly, the creativity of teachers as they create new forms of teaching and learning will be judged by other teachers in their disciplinary field. This is the most problematic of these three propositions as the field of teaching is a trans-discipline in its own right and the innovations of teachers will also be judged by the wider community of educational professionals across all disciplines.

Being Creative in the Academic Disciplines

Surveys of the views of HE teachers on what being creative meant in the discipline³¹⁻³⁶ revealed that certain characteristics are widely recognised regardless of disciplinary, pedagogic or problem working context Table 2.

Table 2 General characteristics of what being creative means in a discipline ³¹

Being imaginative – generating new ideas, thinking out of the boxes we normally inhabit, looking beyond the obvious, seeing the world in different ways so that it can be explored and understood better.

Being original. This embodies:

- the quality of newness for example: inventing and producing new things or doing things no one has done before;
- being inventive with someone else's ideas – recreation, reconstruction, re-contextualization, redefinition, adapting things that have been done before, doing things that have been done before but differently;
- and, the idea of significance and value – there are different levels and notions of significance and utility and value are integral to the idea.

Being curious / having an inquiring disposition – willing to explore, experiment and take risks i.e. the attitude and motivation to engage in exploration and the ability to search purposefully in appropriate ways in order to find and discover. It requires people to explore what they don't know often without knowing what it is they need to know.

Being resourceful – using your knowledge, capability, relationships, powers to persuade and influence, and acquire or develop the resources they need to overcome whatever challenge or problems are encountered and to exploit opportunities as they arise.

Being able to combine, connect, synthesise complex and incomplete data/situations/ideas/ contexts in order to see the world freshly/differently to understand it better.

Being able to think critically and analytically in order to distinguish useful ideas from those that are not so useful and make good decisions about which ideas to develop further. Being able to see and take value from feedback and use it constructively to improve ideas,

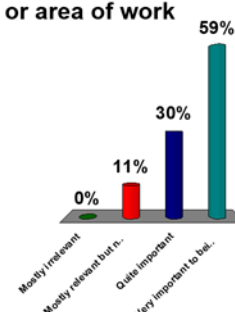
Being able to represent ideas and communicate them to others – the capacity to create and tell stories, pitch and sell ideas, to negotiate and persuade, empathize with others and show people possibilities, opportunities and solutions in ways that make sense to them and cause them to act differently. The forms of communication are rich and varied - they include traditional forms of academic writing and presenting but might also include writing and presenting for non-academic audiences. It may also include a variety of media and tools.

These characteristics are widely recognised as being important to successful practice in disciplines (Figure 11)

Figure 11 Typical pattern of beliefs in a group of higher education professionals (58 people at the University of Ulster Creativity Conference April 2008).

These qualities, attitudes and abilities are important to being a successful practitioner in my discipline or area of work

1. Mostly irrelevant
2. Mostly relevant but not very important
3. Quite important
4. Very important to being successful



Where Does Creativity Reside in the Discipline?

Surveys of academic teachers in different disciplines reveal that sites for creative thinking and action appear to be available in most aspects of disciplinary practice. Sites for creativity can be connected through the idea of disciplinary inquiry, problem solving and solution finding.³¹ Some examples of how creativity is used are given below.

Being original - is understood as creating something new and useful to the discipline. For most academics this is embodied in the processes and products of research and scholarship. The idea is also connected to invention and innovation. For example, in history this could mean: new approaches to solving historical problems; new techniques to gather and analyse data; new approaches to validate evidence; new interpretations of evidence; new forms of history and new forms of communicating historical information.

Making use of imagination - is focused on the use of mental models in disciplinary thinking. It is a source of inspiration, stimulates curiosity and sustains motivation. It generates ideas for creative solutions and facilitates interpretation in situations which cannot be understood by facts or observations alone. Disciplinary problems and concerns provide an essential context for the use of imagination.

Finding and thinking about complex problems - the engine of academic creativity is intellectual curiosity - the desire to find out, understand, explain, prove or disprove something. Curiosity leads academics to find questions that are worth answering and problems that are worth solving.

Making sense of complexity, synthesising, connecting and seeing relationships - Because working with complex problems often involves working with incomplete data, the capacity to synthesise, make connections and see new patterns and relationships, even with incomplete data sets, is important in sense-making (interpreting and creating new mental models) and working towards better understandings and possible solutions to difficult problems.

Communication - the communication of ideas, knowledge and deeper understandings are important dimensions of creativity in the discipline. The symbolic language and tools and vehicles for communicating are all part of the disciplinary heritage. Story telling is an important dimension of communication. Disciplinary cultures are largely based on writing using the conceptual and symbolic language and images that have been developed to communicate complex information in the discipline. Disciplinary story telling through scientific research papers or scholarly essays are important sites for academics' creativity.

Resourcefulness - in the professional disciplines many roles involve solving difficult problems requiring ingenuity and resourcefulness. For example, a social worker or medic might need all their resourcefulness to access and acquire the resources to solve a client or patient's problem. An engineer might be required to use the materials that are readily available to provide the solution to his engineering problems.

Provisional conclusions

A number of studies point to the importance of transformation (undergoing) in actions where creativity is involved. Because there is no agreed definition of creativity there is scope for higher education to create a definition that acknowledges the role of education in transforming individuals, enabling them to actualize themselves so that they can realise more of their potential. The idea of transformation is also relevant to the making of disciplinary artefacts as learners relate to and interact with their material and mental world. Such artefacts are only original in the sense that they relate to particular situations and circumstances. It makes sense to emphasise transformation rather than novelty or originality when we talk about creating new value in higher education.

At a general level there is considerable agreement amongst HE teachers as to the meanings of creativity and what they associate with being creative. It is when we move to the detailed level of specific practice in specific contexts and situations that particular meanings must be constructed. The disciplines within which knowledge and meaning are constructed, and problems are solved, exert a strong influence on what creativity means in the particular contexts and situations it emerges. It makes sense to engage the academy about matters relating to creativity and imagination through conversations that are embedded in the discipline.

But higher education teachers are also deeply involved in pedagogical practices through which they seek to facilitate the transformation of their students. There is evidence that HE teachers associate their creativity with personal growth or transformation as they engage in activity that demands their creativity. There is a good argument for utilizing, in educational practice, a concept of creativity that is more concerned with transformation than with originality. This would place creativity at the heart of the transformation process that is core to the moral purpose of higher education - to enable people to achieve their full potential and make a positive difference to their lives.

The development of ecological and lifewide perspectives on learning and creativity, have the potential to transform higher education so that learning and personal development (creativity as personal transformation) and achievement, including creative achievement, can be recognised and valued across the whole of students' life. In this way concrete meaning will be given to the Eduard Lindeman's vision 'the whole of life is learning therefore education can have no ending' and the boundaries between institutions and the real world will be dissolved.

There is then the thorny problem of assessing creativity in an education system that demands that learning (and creativity) be predicted in advance and evaluated against explicit criteria. If we develop the notion that a person's creativity is involved in their own transformation and fulfilment then, 'the primary role of the teacher is not to define creativity for students and assess them against their criteria. Rather, it is to help students recognise and understand their own creativity and help them express it and make claims against the evidence they feel is appropriate'.³⁷

INVITATION TO THE READER

Q Are the definitions and concepts useful?

Q Are there additional definitions and concepts that should be included?

Q Are there other studies of creativity in higher education learning and practices that should be included in this general review?

Q What conclusions can be drawn from this and other evidence about encouraging and enabling learners to use and develop their creativity?

Who thinks we can do more to encourage students to develop and use their imaginations and creativity?



Please post your responses in our community forums

1 Linked-in 'Creative Academic' group <https://www.linkedin.com/groups/8755256/>

2 Facebook #creativeHE group <https://www.facebook.com/groups/creativeHE/>

Sources & further reading

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Norman Jackson 21 March 2019



Key Discussion Points Week 3

What does creativity mean?



STEPS TO A MANIFESTO TO ADVANCE IMAGINATION & CREATIVITY IN HE LEARNING & EDUCATIONAL PRACTICE

Introduction

Week 3's discussion was about the meaning of creativity in general and in relation to H.E. The questions posed were:

- *What does creativity mean?*
- *What does being creative mean in higher education learning and achievement?*

The conversation

There were 13 participants in this week's conversation: Jonathan Baldwin, Kevin Baron, Teryl Cartwright, Helen Hewertson, Norman Jackson, Sarah Jamieson, Gillian Judson, Paul Klein, Paula Nottingham, Simon Rae, Sandra Sinfield, Holly Warren and Jenny Willis.

What does being creative mean in HE learning and achievement?



Key points of discussion Summary of discussion, Week 3, What does creativity mean?

Although there were fewer contributors to the conversation than in previous weeks, it was a rich discussion which covered many issues. These are highlighted below, but readers are encouraged to refer to the Facebook page for more detail.

Key discussion points:

CN's response

- Curiosity, non-conformist, not a skill, transformative
- Varies across disciplines
- Need to distinguish between 'creatives' and small c 'norm'

Application of Paul Kleiman's model (right top) by NJ in production of a film

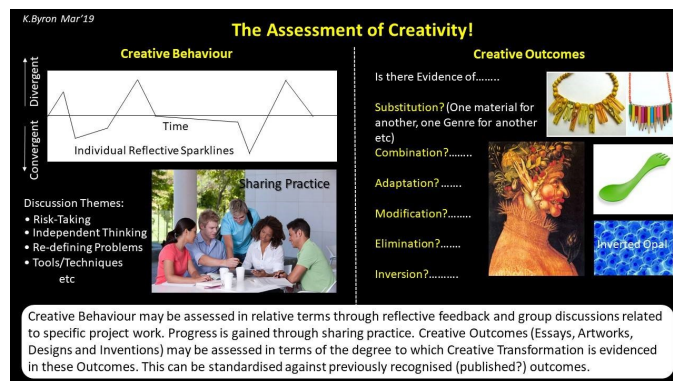
- Raises issue of sharing as intention or consequence of creative act
- Production of revised model by NJ (right)

transformation of me/my ideas	
product-focus	transformation of things product slowly emerges
process-focus	continues throughout
fulfilment-focus	continues throughout

sharing-focus	
transformation of me/my ideas	
product-focus	transformation of things product slowly emerges
process-focus	continues throughout
fulfilment-focus	continues throughout
opportunity-focus	continues at every step

Assessment of creativity (cont.)

- Distinguish between creative behaviour and creative outcomes
- It is easier to assess STEM subjects
- Yorke's realist/relativist model
- Model of 4 levels of creativity
- Returns to the question of what is valued and by whom
- Need a paradigm shift



Intuition, creativity and imagination

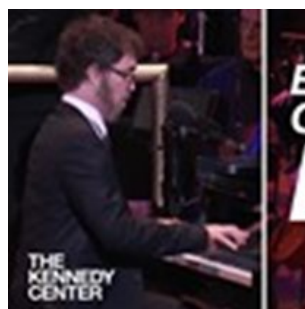
- 'Intuition' is over-used and definitions flawed

Educare / educere distinction of aims of education

- Assumptions of the aim of education differ according to alignment with either *educare* (where the teacher trains/moulds the student) or *educere* (where the teacher leads the student out into development)
- Responses indicate a preference by us for the latter

Ben Folds creating a piece of music video

- A live demonstration of the creative process in action
- Collaborative nature of this creation
- We see him thinking aloud
- He is not afraid to change ideas



Shodo artist

- Is this creation or just recreation of letters memorised?
- 'Muscle memory'
- Contradiction between classical traditions and current morality
- Symbolisation and meanings imposed through reproduction e.g. of educational values
- Example of how access to foreign languages was used to control covertly social mobility, illustrates 'symbolic violence'

Drawing in the digital age

- Human need to 'make our mark'
- Distinction between drawing and sketching
- Drawing should be as important as reading and writing

Future skills and SCEPTR reports

- Reference back to previous week's discussion and suggested documentation

Nursery school locks away toys

- Example of nursery where toys are temporarily banned
- Toys dictate what/how to play as opposed to exercising creativity

Jenny Willis

#creativeHE

Public group

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Creativity for Learning in HE community

Conversations, courses & meetups facilitated by CELT, Manchester Met & Creative Academic, further HEIs are involved, online & offline.

Join us!

Joined ▾ Notifications Share More

Write post Add photo/video Live Video More

Write something...

Photo/Video Watch Party Tag friends

NEW ACTIVITY ▾

Paula Mdx Nottingham uploaded a file.
8 April at 17:19

Here is my manifesto - a work in progress...

Final PN Manifesto 6.4.19.pdf
PDF

Norman Jackson and 6 others 9 comments Seen by 130

Like Comment Share

View 2 more comments

Paula Mdx Nottingham Thanks both! I have been looking at others' manifestos with great appreciation - this focus on the creative has given a lot of food for thought about the specifics of what we do but also the purpose and principles. I am due shortly to write a chapter about work-based projects and know that now the use creative thinking needs to have greater input in its fabric.

Like · Reply · 2d

Lisa Ma replied · 1 reply

INVITE MEMBERS

+ Enter name or email address...

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Vijesh Visvanathan [Invite Member](#)

DESCRIPTION

The #creativeHE community aims to support pedagogical rebels and... [See more](#)

RECENT GROUP FILES

NORMAN JACKSON.pdf
Updated on Saturday

Soren_Bengtsen_rev (1).pdf
Updated on Sunday

Final PN Manifesto 6.4.19.pdf
Updated on Saturday

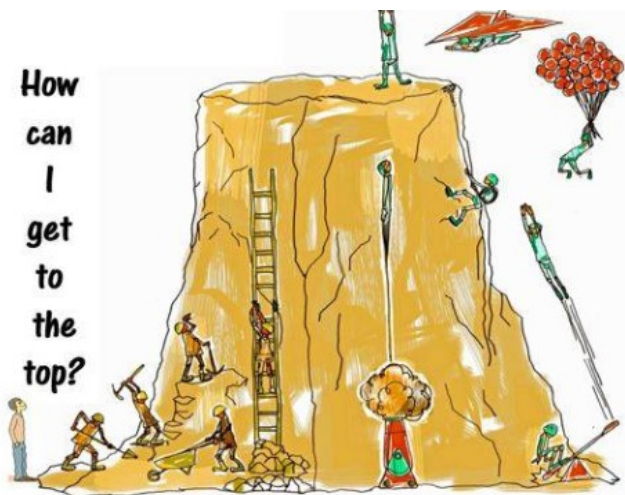
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To read the conversations in full, or to add the ongoing discussion, please visit us on Facebook
<https://www.facebook.com/groups/creativeHE/>

CAM 13B presents the individual manifestos produced by individual participants in this conversation together with an overarching manifesto

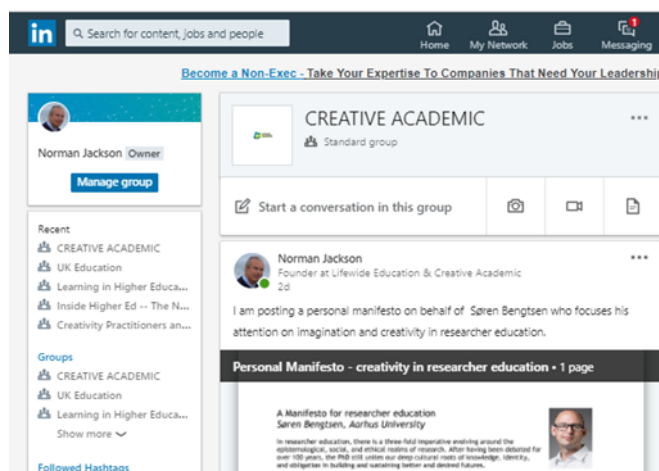


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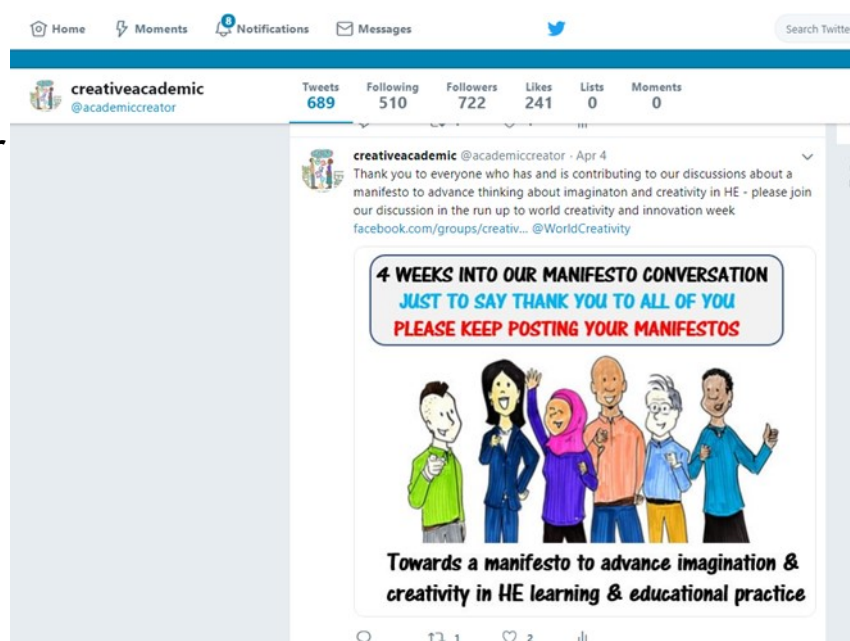
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