

Exploring Creative Pedagogies for Creative Learning Ecologies

What have we learned from our exploration of creative pedagogies for creative learning ecologies? *Norman Jackson*



Issue Number 7D October 2017

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Exploring Creative Pedagogies for Creative Learning Ecologies



Issue Number 7D July-October 2017

What have we learned from our exploration of creative pedagogies for creative learning ecologies? *Norman Jackson*



Norman is Co-Founder of Creative Academic and leader of the creative pedagogies for creative learning ecologies project. His main research interest is focused on developing and applying the idea of learning ecologies to educational and other life contexts.

Introduction

In this article I will try to synthesise the most important things we have learnt from our exploration of *creative pedagogies for creative learning ecologies* which began in October 2016¹. When we started this open learning project we did not know where it would take us but we were willing to have a go. The words of one of our contributors Rahul Hasija² capture this spirit of adventure very well. While our journey was unknown we knew that we wanted to continue to develop our understandings of the idea of learning ecologies, and more specifically, learning ecologies in the context of teach-

*"Unknown is the path, unknown is the destination, unknown is the journey; known is my willingness to walk" Rahul Hasija*²

ing and learning practices. We chose to focus our attentions on the idea of **pedagogy** and on the pedagogies that lead to ecologies within which learners are encouraged and enabled to use their creativity.



But willingness to walk a particular path also requires hope based on belief that the walk will be worthwhile and that if we create the right conditions - other people will join us, which fortunately they did! We did not set out to be rigorous or systematic in engaging with the topic, rather as we walked we meandered and explored whatever looked interesting. Our exploration was therefore emergent, partly planned and deliberate (this would be worth looking at), partly ad hoc, as contributors approached us with their ideas and practices, and partly opportunistic as we discovered interesting places and practices by accident. And as we walk we can't help but be changed by our interactions within the ecology we have created and co-created with the world. So that progressively our initial ideas are refined, abandoned or morphed into entirely new

Doodle Card by: Tanmay Vora | Strivora | QAspire.com thoughts.

At the start of the project we extended an open invitation and over 80 people registered their interest. We provided a monthly newsletter to keep all who expressed an interest informed. We employed three strategies to develop new perspectives. Firstly, we invited people through both open and targeted invitations, to share their perspectives and practices through our emergent CAM7 magazine, contributions included : 1) descriptions and evaluations of educational practices 2) syntheses of discussions or surveys 3) interviews with higher education teachers and 4) sense making conceptual pieces. Secondly, we used social media - we conducted two open discussions on the #creativeHE Google+ Forum and a #LTHEchat on twitter the results of which we reported in CAM7. Thirdly, we conducted an on-line survey to explore the idea of personal pedagogies. We also contributed to #TLC on-line seminar and to several institutional based events.

Gregory Bateman, one of the pioneers of ecological thinking, once said, 'an explorer can never know what he is exploring until it has been explored'³. This article was created to take stock of what has been explored and what we have learnt along the way.

We will never know how many people our project has touched. We do not judge success by the number of contributors, rather we judge success on the value to others of what we have done and what we have produced, and that is something we will never know. And perhaps the most significant outcome is the new relationships we have developed which will continue beyond the conclusion of this project and into the next and the next.

Making pedagogy personal

One of the insights we gained from the contributions to CAM7 is just how personal pedagogy is. We tend to think of pedagogy in the abstract when we talk about particular approaches to teaching and learning. But those approaches are customized by the teacher for the educational context and particular groups of learners, and connect to their own interests, capabilities and qualities as a teacher.

In choosing to adopt a pedagogical focus we had to explore the meanings of pedagogy. It is a contested term and a term that in higher education is generally not used amongst faculty/ academics in their everyday conversations about teaching and learning. But it is a powerful concept that embraces much more than teaching. Adopting the basic premise that <u>pedagogy is 'the conscious activity by one person designed to enhance learning in another'</u>^{4:3}, it's fundamentally an ecological idea in the sense that it is all about people in a relationship, interacting with each other and their environment. And it is what sustains individuals, our society and our species and hopefully the planet we inhabit.

The particular concern of our project was with pedagogical thinking and related practices that lead to ecologies within which teachers help learners to learn and use their creativity in the process of learning: a pedagogy for creativity is 'the conscious activity by one person designed to enhance learning and *creativity* in another'.

We are particulary interested in pedagogical practices that enable learners to create their own ecologies for learning and creativity. This is more in keeping with Barnett and Hallam's 'pedagogy for supercomplexity', 'based on a view of learning construed as, at least in part, the acquisition of those human capabilities appropriate for adaptation to conditions of radical and enduring uncertainty, unpredictability, challengeability, and contestability ^{5:142} Through this project we are exploring the proposition that a human capability necessary for learning in these conditions of circumstantial and contextual complexity and perplexity is the ability to create an ecology in order to learn, achieve and create.

By focusing on a teacher's pedagogical practice for the subject of this inquiry (rather than teaching) we are highlighting the ecological affordance contained in the idea. In this way we might reveal the value and significance in the idea. The proposition we are adopting is that a teacher's pedagogy is fundamentally about relationships - with their beliefs, values, knowledge and experience, with the learners they are accompanying and caring for, with their subject which they often care passionately about, with the resources they prepare to help students learn, with the activities for learning they design and animate through their teaching, with the assessment tools they create, with the technology they use and with the spaces they create and their students inhabit within their institutional ecosystem.

This broad ecological view of pedagogy, is similar to that adopted by Thomson et a^{6:10} in their investigation into the signature pedagogies of artists and other creative practitioners.

Pedagogy is more than teaching method, more than curriculum, more than assessment practice⁷. It is all these things, but it is also how they are made into patterns of actions, activities and interactions⁸ by a particular teacher, with a particular group of students [in a particular context]. The concept of pedagogy encompasses relationships, conversations, learning environments, rules, norms and culture within the wider social context^{9,10,} and may extend beyond school to community and public settings^{11,12}. It takes in the ways in which what teachers and students do is framed and delimited within a specific site, a policy regime and the historical context¹³.



A teacher's personal pedagogy is not fixed. Rather we should think of it as a dynamic expression of their knowledge, skill and judgement and sensing of what is needed because they are deeply in tune with the learners' interests and needs, and the contexts, circumstances and situations in which they practice. A teacher's pedagogical thinking and practices are not fixed because they are influenced by the everyday professional, institutional, social and technological world they inhabit. In fact, the influences on pedagogical thinking are much wider and deeper than a teacher's professional career: they emanate through a lifetime of engaging with learning in family, education, work and other social settings. While higher education teachers may not use the word pedagogy to describe this complex and dynamic set of relationships and interactions this is the reality of a pedagogy that is personal and lived day to day.

One of the interesting ideas to emerge through our exploration is the ways in which teachers develop their beliefs about learning and how to facilitate learning in others, over a lifetime of experiences. High impact experiences, like good and bad experiences in school, or experiences of professional practice in the commercial world, influence their current pedagogical thinking. We might speculate that the pattern of beliefs and values that

This claim is based on interviews reported in CAM 7C How does MediaWorks work? Interviews with Tony Dias and Julius Dobos p. 53' and 'Meet the Teacher – Declan Phillips p.94', unpublished conversations with HE teachers and my own experience of life.

higher education teachers hold ultimately determine the ecologies they are willing to create in order for learners to experience learning in the world in the ways that they believe are necessary to develop the capabilities and attitudes necessary for the modern world. We began to explore this idea through interviews with some of the contributors to the magazine.

The idea of personal pedagogies was explored in the March issue of CAM7C, in an on-line #LTHEchat and #creativeHE conversation, and through an online questionnaire¹⁴. A number of academics shared their own influences and these were published in the March issue of CAM7C (right). When a teacher maps their pedagogical journey, it makes explicit where and how particular beliefs and values emerged in their life and how these impact on their current thinking.



Figure 2 provides a conceptual framework for viewing im-

portant influences on individual's pedagogical practices¹⁵ Potential influences include the contexts of their discipline, the educational needs of the programme and the learners on the programme, the strategic priorities of the institution, including the provision it makes for the development of higher education teachers, and some of the influences that are external to the institution. This conceptual aid tries to convey that there are many possible influences - past, present and future that are likely to impact on a teacher's pedagogical thinking and practice - it emphasises that a personal pedagogy is an ecological phenomenon evolving in a relation between the person their life, past and current experiences.



My awareness, knowledge, skill, interests, beliefs, values, emotions, history – what I care about, in fact everything I can bring to the situation to fulfil my role as a teacher **Figure 2** Representation of the influences on a teacher's pedagogical thinking and practices in a university ecosystem the manifestation of which I am calling a personal pedagogy¹⁵

At the centre of this concept map are the learners who are participating in a particular module in a particular programme, it is their needs and interests in this educational context that provide the most important context for the teacher's personalised pedagogical thinking and practice. A module or programme might have a particular content, theoretical or practical orientation that shapes a teacher's approach. Their pedagogical knowledge is formed and influenced from many different sources, here are just a few of them.

- The teaching practices the individual has encountered as a learner in their disciplinary field and the *signature pedagogies*^{14,15,16} of their discipline which are core to the ways in which disciplinary practitioners think, solve problems, and develop and use knowledge.
- The generic pedagogical practices learnt from peers within or outside the institution or from professional development activities within their work environment they include such practices as a traditional lecture or seminar and the use of criteria to assess students' work
- A teacher's research interests, knowledge, practices and related resources and networks which can be drawn upon
- Institutional strategic policies that impact on teaching and learning for example an institution might have a policy that encourages all graduates to possess certain qualities and attributes that might impact on pedagogical practices. Institutional quality assurance procedures may also require certain forms of practice such as curriculum designs that are based on learning outcomes.
- Issues the institution is engaging with. For example, an institution might be committed to social inclusion and widening participation, or to internationalisation or sustainability all of which can affect the pedagogical approaches used by teachers.

A pedagogy that sets out to enable learners to use their creativity is a personal and situated phenomenon not an abstract idea. It's the particular 'patterns of actions, activities and interactions by a particular teacher, with a particular group of students' in a particular set of institutional, curricular and relational contexts and circumstances. Our project only opened up this area for inquiry and further explorations of the idea of personal pedagogical journeys are planned as a continuation of the current project.

Survey of personal pedagogical influences

To evaluate these ideas we conducted a survey the results of which were reported in the April issue CAM7C¹⁴ There were 60 respondents at that time. Figure 3 provides a synthesis of key influences.

Figure 3 Synthesis of key influences on a teachers formation.

The survey concluded that:

- role models are very important sources of professional development. This may be colleagues or others observed teaching ie experiences of being taught, or they may be renowned educationalists or theorists who open new ways of thinking about learning and teaching.
- personal and lifewide experiences are recognised as helping professional development.
- closely related to this is personal disposition, including the motivation to enquire, experiment and persevere even



experiment and persevere even when experiments do not work out as they had hoped.

• respondents demonstrate that, with experience and training, they are responsive to their learners and rely greatly on the feedback received, whether informal or formal.

Personal experiences of teaching and designing courses and the willingness to experiment are perhaps the major influences on the continuing development of pedagogical thinking and practice. The survey remains open https://www.surveymonkey.co.uk/r/personalpedagogy and to date there are 85 responses. The accumulated results can be viewed at https://www.surveymonkey.net/results/SM-Q6R29H3G/

Seeing and thinking ecologically

From the start of this project we treated the subjects of our inquiry ie teachers' personal pedagogies and the ways and means they encouraged and facilitated learning and the creativity of learners, as ecological phenomenon rooted in educational contexts and environments. 'Every organism has an environment: the organism shapes its environment and the environment shapes the organism. So it helps to think of an indivisible totality of 'organism plus environment' - best seen as an ongoing process of growth and development'¹⁵. From an educational environmental perspective it does not make sense to talk about the environment in which we are learning without reference to ourselves as the organism that is perceiving and interacting with the environment we inhabit in order to learn.¹⁶

Applying the idea of ecology to learning, personal development and achievement, including creative achievements, is an attempt to view a person their purposes, ambitions, goals, interests, needs, creativity and circumstances, their perceptions of the world and their social and physical relationships and interactions with the world they inhabit, as inseparable and interdependent. The idea of ecology encourages us to think more holistically and more dynamically about the way we inhabit and relate to the world. It encourages us to think in a more holistic way about our life: how we connect up the moments in our lives to form experiences and achievements that mean something to us¹⁷.

The ecological framework we are developing and testing through this project is shown in figure 4.

Figure 4 Model of an ecology for learning within which our personal creativity emerges. Based on the framework proposed by Jackson¹⁷



Our ecologies for learning embrace all the physical and virtual places and spaces we inhabit in our everyday lives and the learning and the meaning we gain from the contexts and situations that constitute our lives. They are the product of both imagination and reason and they are enacted using all our capability and ingenuity. They are therefore one of our most important sites for our creativity and they enable us to develop ourselves personally and pro-

fessionally in all aspects of our lives. If this belief is well founded then surely, our ability to create our own ecologies for learning and development must be one of the most important capabilities we need for sustaining ourselves, achieving our purposes and maintaining our sense of wellbeing in a complex, ever changing and often challenging and disruptive world.¹⁷

Reiterating what was said earlier, the ability and willingness to create our own ecologies for learning, developing, creating and achieving aligns to Barnett and Hallam's 'pedagogy for supercomplexity', 'based on a view of learning construed as, at least in part, the acquisition of those human capabilities [and dispositions] appropriate for adaptation to conditions of radical and enduring uncertainty, unpredictability, challengeability, and contestability ^{5:142}

Ecology of personal creativity

There are many definitions of creativity and most seem to have the ideas of bringing something new and original into existence as their core conception without providing any sort of context. It's as if creativity and invention happen in isolation from the world of their creator. Because of this I have come increasingly to appreciate the significance in the way Carl Rogers framed the idea of personal creativity as, *'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'* ^{18:350}

The bottom line is that creativity is an ecological phenomenon. It's about human beings having thoughts that are stimulated by their relationship and interactions with the world, both inner and outer, they inhabit. A creative thought is the result of a person interacting cognitively, physically, emotionally, virtually with something in their world ideas, people, things, problems, situations and experiences, and a multitude of other things and this interaction triggering a novel thought. These thoughts are often the result of connecting/ combining two or more things to create something that is different to the things that were connected. McWilliam and Taylor⁶ catch this beautifully in their idea that creativity is often the result of *making a third 'thing' from two existing things or ideas*, rather than making something from nothing.

A learning ecology contains not only the physical, virtual and social spaces, materials, resources, relationships and activities that help to form the circumstances of our lives, but also the mental / psychological spaces that enable us to think about ideas and situations in a variety of ways and generate entirely new (to us) and perhaps novel (to others) ideas. Furthermore, the intrinsic motivations and beliefs that derive from these processes encourage us to develop our ecology so that we can create, achieve and learn how to do these things in the contexts and situations of our lives.

If we translate this way of thinking to the formal teaching and learning environment then the most important things a teacher does through their pedagogical thinking and related practices, is to create affordance for learners to create their own ecologies for learning, creating and achieving. Ultimately, this is the capability and related beliefs and dispositions that will sustain learners throughout their learning lives.

Ecologies for learning created by teachers

Higher education teaching is a complex matter requiring deliberation, decisions, planning, design and implementation, the consideration and connection of many variables and the improvisation and adaptation as the teaching and learning process unfolds. Figure 5 reveals some of this complexity by identifying the main components of a typical course-based ecology for learning that is designed and taught by a teacher and are hosted in an institutional ecosystem which provides the physical, cultural and virtual environment.

Figure 5 Typical ecology for learning developed through a teacher's pedagogic practice and associated with a taught course within an institutional ecosystem (refined from Jackson^{17:244}). Jackson's model^{17:} of a learning ecology (Figure 3) provides the underlying rationale for this pedagogically constructed ecology for learning which links the past experiences and learning of the teacher and students, to an unfolding present in which thinking, action and interaction develops over time. What results will be reflected upon and what is learnt will inform future pedagogic adventures. In this ecological model of pedagogy everything has a relationship and the potential to interact.



Learning ecology conceptual spaces

There are two different ecological contexts in which students' creativity can be facilitated perhaps best represented as two ends of a continuum. At one end of the continuum the teacher controls all or most of the aspects of the ecology for learning but within this context there might be scope for learners to use their creativity - for example the teacher might control the aims, outcomes, content, contexts and spaces for learning but provide a challenge within which students have the encouragement and freedom to engage their creativities to achieve an outcome that is not controlled by the teacher. At the other end of the continuum the teacher relinquishes control over such matters as the outcomes, content, contexts and spaces for learning and encourages and enables learners to shape or even create their own ecologies for learning within which their creativity can flourish.

Figure 6 developed by the author ^{17,19}, provides a framework to explain the conceptual spaces within which learners either, 1) participate in ecologies created by teachers, 2) participate in ecologies that they create for themselves or 3) participate in hybrid ecologies that are co-created by learners and teachers and/or others. The 2x2 matrix is defined by: 1) *contexts for learning* i.e. whether the contexts are formally constituted and structured within an academic programme or whether they are informal and unstructured opportunities for learning and development, and 2) whether the *institution or the learner* determines the what and why, the how, where and the when of learning, and ultimately determines what counts as learning. The key question is who determines the goals and purposes, knowledge and skill content, processes, resources, tools and technologies outcomes and achievements. Four different scenarios are imagined to represent the different conceptual spaces in Figure 6 are summarized in Table 1.



skill content, process, resources including tools and technologies, relationships and recognition of achievement.

Table 1 Elaboration of conceptual spaces shown in Figure 6 offering different levels of affordance for learners to create their own ecologies for learning

A) Traditional lecture-based ecology for learning

Teachers working with a pre-determined curriculum or syllabus containing specific knowledge and opportunities for skill development and supported by an appropriate set of resources, engage their students in a process for learning. The main activities undertaken by learners are attendance at lectures, perhaps supplemented by seminars, essay-based coursework assignments, and revision for examinations. Learning and achievement reflect mastering the content of the course, determined through teacher assessment. In this type of learning ecology the learner has little or no involvement in the design of the ecology they merely participate in one that has been designed for them. They have little or no control over the goals, tasks, content, process, resources and what counts as learning and achievement. Their learning is likely to be geared to gaining the best grades in their coursework and examinations.

B) Teacher designed & facilitated active ecology for learning Pedagogies that lead to extended processes for learning and contexts within which particular forms of learning are situated will engage learners in very different forms of participatory activity. Problem-, project-, inquiry-, event-, design and make, and field-based learning all actively encourage learners to define and explore their own problems, build and utilise relationships for learning, be resourceful and discover for themselves the knowledge they need to produce possible solutions, sometimes in contexts that are unfamiliar. In these types of learning contexts teachers operate as facilitators guides, supervisors and coaches rather than didactic transmitters. Such pedagogies and practices help learners develop the will, capability and confidence to create their own learning ecologies for learning and achieving. Students will still want to gain good grades in their coursework and examinations, but in engaging in these sorts of processes they are gaining much more. They are learning through an experience that learning involves a process that has to be created. That involves as sessing a situation, defining problems and seeing opportunities, setting goals, planning and executing tasks, discovering and applying relevant knowledge and other resources and forming new relationships. Although ultimately the teacher will determined what counts as learning and achievement and they may give little or no recognition for learners' processes of learning, learners will still have learned these things. Learning that is important to the creation a learning ecology.

C) Institutionally supported self-directed ecology for learning

There are some contexts in unstructured learning environments like for example work, volunteering in the community, independent fieldwork, co-curricular enterprise and event organising, which involve learners in activity in which they determine for themselves goals, tasks, content, process and resources. Such environments are beyond the control of the teacher and institution but they may be influenced and supervised by other people like employers, supervisors, entrepreneurs, who may influence goals, tasks, content, process, relationships and resources, and ultimately the recognition of what counts as learning, performance and achievement. Universities can capitalise on these contexts for students' development through frameworks and processes that enable learners to visualise, plan, record/evidence, reflect on, make claims and gain recognition for their own learning and development. These forms of support and recognition vary in the extent to which they focus learners' attention on specific goals and outcomes or they encourage learners to define their own goals and achievements. Support may also be given to encourage and facilitate interaction between learners engaged in a similar process for example in providing a forum for students to exchange information and discuss situations.

D) Independent self-directed ecology for learning

This conceptual space is where people create their own learning ecologies for their own purposes typically for their own learning projects often associated with interests like sport, hobbies, travel, working in the community or for a charity, enterprise like setting up a business or organising an event, raising a child and countless more contexts. Involvement and learning are not driven by the need or desire for formal recognition but by the intrinsic desire to improve self, and the sense of doing something worthwhile to contribute and make a positive difference. In such self-motivated circumstances the learner determines for themselves and or with co-participants goals, tasks, content, process, resources and relationships and achievements. Although, learners do not seek recognition for learning and personal development gained through such experiences a university could provide the tools and mechanisms that enable learners to plan, record/evidence, reflect on, make claims and gain recognition for their own learning and development. From an educational perspective these contexts are particularly favourable for learners developing their own ecologies for learning and achievement in a way that a formally structured and controlled educational environment cannot.

Physical spaces

Physical spaces are an important element of a person's environment. The spaces in which teachers and learners perform creatively are quite varied. People can be creative in almost any space but some spaces are perceived to be restrictive (eg a lecture theatre) while others are perceived to be facilitative (eg more open spaces which can be used flexibly). Some spaces are deliberately constructed to create spaces in which particular types of creative work can take place. For example, in the August issue of CAM7D Andrew Middleton explored studio spaces²⁰ and concluded that educationally, the studio continues to mean:

a space in which individual craft, knowledge and dispositions are valued;

a space designed to promote creative thinking and originality;

an immersive networked place of individual effort and collective agency;

a place of co-operation and co-production;

a cauldron of ideas, technologies and people.

Students working in a studio space



Quite simply a studio space has more potential for interaction if the teachers and learners using the space choose to exploit the potential.

"The spaces that are most effective for active and collaborative learning are those that create a flexible and fluid environment. A studio model, which resembles an open workspace for architects or artists... This enables more interaction than the typical classroom and supports student engagement and movement."²¹

A studio affords, for people who know how to use it, a physical environment in which they can create their own ecologies for learning, exploring, developing, creating/co-creating, making, performing and achieving²².

While studio spaces are often connected to artistic disciplinary practices involving performance, in science laboratories are the dedicated spaces in which people practice, perform, experiment and create. Spaces have to be fit for purpose and this often involves including within them the tools and other resources necessary for the work undertaken within them. Kate Dutton provided an excellent illustration of the way a science laboratory had been transformed into a 'maker space' in which scientists and artistic crafts people could collaborate in creative ways.²³

It is clear from the stories that are shared by the people who use such spaces that they form a deep relationship with the spaces in which they practice and perform. In ecological terms the studio space encourages and facilitates the sorts of relationships and interactions - physical, social, intellectual and emotional, necessary for the making of such artefacts and performances. In such spaces creators are able to embody who they are by drawing on their deep intrinsic motivations, harnessing their imaginations, intellect and emotions, immersing themselves in their creative work to tackling and solve the problems and challenges they set themselves and create the artefacts and performances they are seeking.

Learning to inhabit such specialised spaces to create or reproduce cultural artefacts and performances requires apprenticeship : enculturation and instruction in ways of thinking and knowing, acting and performing in a social context involving other practitioners both novice and experienced. Such apprenticeships are accomplished through formal education and professional training and lots of informal self-determined experiences. The pedagogies (how a person enables another to learn) of apprenticeship in these disciplinary domains are necessarily *signature pedagogies*. "the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions"^{24:52}.

Pedagogical illustrations

The purpose of the Creative Academic project documented in CAM7, was to identify examples of pedagogical practices where learners could create to, a significant extent, their own ecologies for learning: ecologies within which they could use their creativity in order to achieve something that was relevant and of value. Here are four examples of pedagogical practices in higher education that try to apply these ecological ways of viewing learning and achievement.

#1 Parallel Practices, Kings College, London University

The Parallel Practices intervention described by Kate Dunton²³ in the October 2016 issue of CAM7, involved a Lecturer in Informatics and a Lecturer in Physics and two resident craft-makers - specialists in metalwork and automata (John Grayson), and in glass (Shelley James) who set up residence in a maker space in a scientific laboratory (reframed as a maker space) that was equipped with various tools including a 3D printer and a sewing machine. The idea was to create a vibrant, student-owned space outside the formal curriculum where students from the Faculty of Natural and Mathematical Sciences could experiment and play alongside peers in different departments and at different levels of study. By embedding artistic makers with skills in traditional crafts, and scientists in the same space it was hoped that students would develop the confidence to experiment and learn by making, as well as the opportunity to learn new skills that would otherwise be inaccessible to them in the formal teaching of traditional science and engineering disciplines. The makers used two pedagogical approaches: a workshop approach, where the makers would directly engage students in structured activities that might broadly support their subject-based learning, with a more traditional residency where the makers pursued their own work in the space thus allowing for more open-ended and curiosity-driven conversations, interactions and activities could emerge. It was this reciprocal need for both the students and the craft makers to take something from the encounter, and the process of making and experimentation that lay at the heart of their shared inquiries, that provided the impetus for creativity and learning on both sides.

Students at work in the maker space by John Grayson



Science students created their own ecologies to make their own artefacts within the frameworks provided by workshops and informal interactions and conversations, utilising the expertise of the makers to develop the skills to work with the tools and materials that were available in the maker space. It was clear that the affordance in this environment inspired both makers and students and the culture that was created encouraged experimentation without the fear of not succeeding.

It's opened up so many opportunities for all involved. Some of the students started to really immerse themselves. I think it gave them a good opportunity to see how they could apply their skills in a slightly wider context, and in a risk-free way. Because it's not tied to a module they're not petrified about failing. It was a supporting environment. They knew that we were there to ensure that what they were making didn't end up being tat. At the same time, it allowed them to challenge themselves a bit. (John Grayson)

The environment was rich in resources and tools that enabled participants to create novel artefacts that held both scientific and aesthetic meaning and value.

I noticed that the bottles that they keep their amazing nanoparticle samples in are really ugly, so I showed them how to heat up and blow standard glass pipettes to make little vials. We put some of their nanoparticles in and then one of the research students said, "Why don't you make it longer, like fishing floats, and we'll put them in water..." And we all zoomed down to their labs in the basement where there were all sorts of big glass cylinders. I had no idea that space even existed. One of them ran off to get blue light torches and they were all so excited by the way the colour looked different when looking from underneath through the water, or from the top. As the 'tails' full of liquid crossed in front of each other, we could see new colour combinations. If I'd suggested it, it wouldn't have had the same spontaneity. One of the students then wondered what would happen if we looked at the colour through thicker pieces of glass. We mixed their dyes and nanoparticles with a special glue and used that to assemble pieces of glass. Again, the colour looked different depending on the angle of view and we've started to build some more complicated models together using these effects. So it was important to leave space for the students to bring their own ideas. I suppose I incubated a situation that was still open. (Shelley James).

This account provides good examples of creativity in action ie taking an idea, combining it with another to create something new and playing with the media to see what would happen and discovering new phenomenon in the process.

Ecology for learning and creating

In terms of the ecological conceptual spaces framework shown in Figure 7 this type of environment equates with zone C - a co-curricular space containing some structured activity for the development of skills and awareness, and unstructured space for self-determined and self-directed activity, in which learners could imagine, experiment and make their own artefacts.



eg a work placement or volunteering organisation

Figure 7 Location of this pedagogical intervention in the typology of learning ecologies framework

An important reason for why learners' creativity flourished in this setting was that the ecology encouraged them to take risks, moving well beyond their previous experiences, and experiment without the fear of being penalised for not being successful because of the absence of a) intended outcomes proscribing results and b) grading for the products of their work. John Grayson, one of the craft makers, put his finger on why the culture of the environment promoted such behaviour.

The nice thing with this project is that it's not part of assessed learning against a module descriptor with a predetermined set of learning outcomes. And of course, that introduces an element of risk because it could turn out to be completely rubbish. You could argue that not identifying outcomes at the beginning is a problem because you can't measure if you've met them. But equally, risk generates innovation. There will always be 'known unknowns', that is to say, the things that we know are going to happen because that's the nature of the project, but we don't know what they are exactly and we let them unfold. We can do that because it's not tied into a set of learning outcomes. We can extend those vials into long pipettes and chuck them in a bucket of water just to see what happens. In a formal module, where that might not serve the learning outcomes, those moments of spontaneity would be lost. I suppose what I'm saying is that the outcomes are much more fluid. For example, if you started with an outcome that was about developing new technology - lasers, for example - and then through the act of play it starts going in a different direction, somewhere amazing, you might feel you have to reign it in. That to me seems to defeat the whole point of doing something experimental (John Grayson).

When invited to identify an alternative kind of learning that is not outcomesbased both the craft-makers highlighted the way this form of engagement changed participants in ways that were not easy to measure: more to do with a sense of their own existence and place in the world, their relationships with the things in their learning ecology and the journey that they are undertaking.

You might need to call it a 'development'. People are changed in some way. It's something to do with the way they understand their own fields, their sense of their own potential, of themselves as human beings, of learning how to interpret the behaviour of the material they work with. It's about recognising that it's a journey, it's a process, rather than an outcome. (Shelley James)

I think it would be really interesting if there was a module in every year that had nothing in it; no content, no learning outcomes, just a slot of time, a space, and some money for the staff to do something truly ground breaking. And if it all goes pear-shaped, no-one is going to get canned. John Grayson



Kate Dunton²³ draws out the ecological significance of the Parallel Practices experiment. The space itself was crucial and was specifically designed to be somewhere that students might express their creativity. It embodied the ethos of the maker space; that is, a space to imagine, take risks, play, tinker, experiment and develop ideas that have personal meaning to the individual, making use of the abundant resources available and without fear of failure. This space, and the resources within it, provided the 'affordances' for personal creativity but crucially participants had to recognize these affordances and be willing to act on them. Equally, the space needed to be *animated* by human communication and interaction, and that's where our makers and their academic partners were key. In the interview, Shelley talks of an 'incubated collaboration'. I think that chimes

very much with the learning ecology idea, but importantly a learning ecology that is both created for students and within which the students are active in shaping and activating that ecology continually as key components of its survival. Erica McWilliam's idea of teachers as meddlers-in - the-middle⁶ helping, enabling and challenging learners and themselves to create in ways that have personal meaning reflects the way the craft makers modelled their own creative processes and behaviours, constructively disrupting students' usual expectations and approaches, offering a glimpse, as John pointed out, into a parallel world, was an important element in fostering this collaborative ecology for learning and creative achievement.

The way the space brought together and connected students across departments and at different levels of study, removing some of the usual hierarchies, is also interesting from an 'ecological' perspective. It allowed and demanded the sharing of resources, including participants prior ideas and knowledge as well as those which were developed collaboratively through making and practical experimentation. Creativity was driven by the need for everyone to give something and to get something from their engagement with the milieu. This came out very strongly in Shelley and John's wonderful reflections - 'it was the drive to find a shared ground and reciprocal benefit that drove the creative encounter'. The idea of emergence was very strong in both narratives and the undeI think it would be really interesting if there was a module in every year that had nothing in it; no content, no learning outcomes, just a slot of time, a space, and some money for the staff to do something truly ground breaking. And if it all goes pear-shaped, no-one is going to get canned. (John Grayson)

People who are driven to be creative seek and find favourable environments to be creative in. They also modify existing environments in ways that enable them to realise their creativity and they also create entirely new environments (eg an ecology for learning) in which they and others can be creative. They are able to see the affordance in an environment they inhabit and use it to realise their creative potential. "^{4:5}

niable truth that our most creative ideas and achievements cannot be predetermined as a set of learning outcomes contains the fundamental wisdom of this story.

Hybrid pedagogy

In their study of creative practitioners in schools, Thomson and Hall²⁶ draw attention to the emergence of hybrid pedagogies when artists bring their practices into formal educational environments in order to facilitate the creativity of others.

Creative practice was characterised by its hybridity. Artists generally did not do in schools what they did in their own creative practice. They all 'taught'- that is they had thought about and developed, through experience and in dialogues with teachers, ways to make important aspects of their creative practice pedagogical. These practices were not the same as those which occurred routinely in classrooms. Some artists of course were more teacher-like, just as some teachers were more like artists in their pedagogical repertoires. Nevertheless, what we observed is that in the space/time of creative pedagogies something happened that was different from what happened in either an arts or conventional classroom space/time. A variety of blends and mixes occurred....

This tendency to hybridity seems to have been an important feature of the pedagogical environment described above. It connects to Tim Ingold's insight that the environment shapes our actions and we shape the environment.

#2 Design Studio: University of Limerick

In the June issue of CAM7D Michael Quilligan, Declan Phillips and Tom Cosgrove shared their approach to encouraging students to use their creativity in the Civil Engineering curriculum at the University of Limerick²⁷. The year 2 "Design Studio" module aims cultivate *listening skills* so the young engineer is better equipped to respond to a client's brief in a creative and innovative way. The module sits within a programme that adopts a Problem Based Learning (PBL) pedagogy in which the problem solving 'process' has parity of esteem with the required 'technical' content. The educational value system that underpins the approach is *learning that is active, collaborative, creative and reflective*.

The catalyst for creativity is a challenge that students define and own "What we are trying to do in the Design Studio has almost nothing to do with content. It has to do with thinking and creating the environment in which students can think for themselves. In a typical module, we tell the students what we want them to do. We have very specific technical outcomes, and rightly so, that students have to reach to become competent as engineers. But in the Design Studio space we say, "We would like you to work on a topic that you are passionate about." We want them to create a challenge that they find personally meaningful - which, by the way does not need to be about engineering!" There are however two caveats. The first, based on our experience in the industry, and reflecting on the deficits in our own education, was that you have to look at a problem from multiple perspectives. The second, is that in working with the problem you have set yourself you have interact with an end user. If you pick a device, or a service, or whatever it may be, you must engage with someone that is using that service, or is using that device, so that you can take on board the views of the end users, and incorporate those into making a better design. That's the module in a nutshell. We have a number of ice breaker activities, which, I think, are necessary in order to get the students to realize that they truly have the freedom to think for themselves, and that there is no hidden agenda."28 The key features of the module are shown in Figure 8.

Figure 8 Key features of Design Studio

Table 2 shows how the module is highly structured. It flows along two parallel tracks, one focussed on the creative challenge, the other a triplet of reflective pauses moving through anticipation and planning, awareness and consideration of current experience and action and retrospective self-assessment of achievement and future needs.



Table 2 Design Studio Module/Process Map

| | | Creative Challenge | Reflective Pauses |
|----------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Phase I | Develop a Proposal (on campus) Weeks 2-5 | Students choose 2 topics (artefact, process or situation) of personal interest, not necessarily linked to engineering. Research those topics and consider potential improvements. Tutors give guidance to the class, as well as meeting individually with each student on 2 or 3 occasions. Students develop two proposals before choosing one for further development | |
| Phase II | Off Campus Retreat Week 6 | Module activity moves to a city centre venue. A research phase is followed by an interim presentation on Wednesday with peer and tutor feedback on process and content. Final presentations take place on Friday. Invited speakers <u>address</u> the students on 3 mornings. | Workshop 1 & Reflective Task 1 "Based on your experience in the module to date, identify the skills/abilities or dispositions/ traits that you expect will be called for from you during the semester" |
| Phase II | Portfolio & Final Reflection (on campus) Weeks 7-11 | | Workshop 2 & Reflective Task 2 "Complete your interim reflective self-assessment & seek peer feedback" Workshop 3 & Reflective Task 3 "Update and submit your final Self- Assessment with future actions for improved effectiveness" |

In Design Studio the teachers create an ecology which is rich in resources and stimuli that they believe encourage students to think differently and creatively, and to think about the meaning of creativity. Some of these stimuli take the form of interventions for example.

"I picked some videos that I felt might provoke students to think about creativity. John Cleese, the star of Fawlty Towers and Monty Python, has in a number of internet videos reflecting on the conditions that facilitate creativity.....The Design Studio students watched and discussed these videos in the first week of the module and were then asked to critically reflect on their own daily routines, habits and educational arrangements and to consider how these may be influencing their creative abilities."

Students were inducted into the idea that they had to engage creatively with a challenge but the results were disappointing.

"I introduced a short 2 week project. The students were asked to design a short course that would both inspire and help them become better engineers. The purpose of this exercise was not so much about the students' products; rather, it was about bringing them to consider critically aspects of taken-for-granted familiar educational experiences. Every student offered a module traditionally structured as lectures, labs and tutorials. There was very little evidence of creativity or innovation in their thinking."

A third intervention involved a series of talks by inspiring speakers, who had in their own way made a creative contribution.

The most significant and costly intervention involved an off-campus retreat to put learners into a different sort of environment to what they were accustomed to.

"I think a campus symbolises tradition, structure and familiarity. We wanted to break from this so in 2015 we secured a 'bohemian' loft space off campus in which the students would be comfortable, have a place to sit with plenty of wall space to display their work"

"[a] space and time for the students to explore something of personal interest to them. It is somehow amusing to consider that in so many documents we expect students to innovate when they are put through a system that does nothing to foster free exploration and choice. Secondly space and time outside the University environment."

"We [were] keen to secure large chunks of un-interrupted time so students could explore and speculate on the myriad of ideas they generate on their project. We believe the 'lecture-tutorial-lab' framework, inhibits the freedom we were hoping to provide. Even if we had a full-dedicated week on campus, we believe it would not be congenial to the freedom of thought and imagination that we aspire to facilitate. Being off campus as a collective and with a collective goal is one of major successes of this module. The rough and ready open space in the centre of the bustling city was the perfect venue for developing and honing new ideas, a space that students could make their own."

Off-campus space - unimpeded time for thinking, action and interaction



This physical, social and intellectual space seems to have been very important for some students

"I would attribute the reason for coming up [with] and solving the problem is the change in the place of work/ studying which has had significant boost to my creativity." Anon student

"We also needed a big enough space so people get away from one another and sit in a corner to think." Anon student

Ecology for learning and creating

In terms of the ecological conceptual spaces framework shown in Figure 9 Design Studio is located in the demic programme in domain B but some of the learning experiences occur off campus in domain C The ecology for learning is structured and facilitated by teachers who are encouraging learners to use their creativity. A key feature of the ecology is the challenge and its openness to interpretation and customization by individuals.

Figure 9 Location of Design Studio in the typology of learning ecologies framework.

A key feature of the ecology for learning is the 'challenge' and its openness to interpretation, customization and ownership by individuals.

"We would like you to work on a topic that you are passionate about." We want them to create a challenge that they find personally meaningful.. There are however two caveats.... you have to look at a problem from multiple perspectives [and] in working



with the problem you have set yourself you have interact with an end user.

The way this challenge is framed is interesting in that it relates closely to the way creativity is understood in terms of 'the relevance of a possible solution to an external client', which is described in the next example.

"At the start I had two ideas to choose from, my other was an adjustable arm support for welding. I decided to do some research into which would be more useful. I approached a friend who is a second year apprentice welder and a friend of my dad who is a professional welder, both said my idea had merit. I spoke to my dad and neighbours about the bale handler and they said it also was a good idea. I chose the bale handler as I had experience with it myself and more knowledge.I researched to see it my idea had already been thought off and I approached end users for their opinions. I visited Rossmore engineering, who specialise in bale handlers, where I got constructive advice which I used to change my design. This module showed the importance of research in any project you undertake." Anon student.

A distinctive feature of the pedagogy and individuals' learning ecologies is the emphasis on reflection. The reflective writings of students 'tell the inner story of experience, struggle, frustration, and excitement. The development of reflective writing skills is something that was designed into the learning ecology.

#3 Media Works - Cogswell College

Cogswell College, located in Silicon Valley in San Jose, California, provides practical education in the combined disciplines of technology and entrepreneurship with an emphasis on leadership, and a strong focus on new technologies and business models to prepare graduates for careers in the global economy. The April issue of CAM7 featured one of their curriculum innovations called Media Works²⁴ together with an interview with the two teachers responsible for designing and facilitating the process.

The team-oriented, project-based and collaborative environment of MediaWorks offers its students a production experience that mirrors actual industry pipelines, decisions, challenges and problem solving scenarios. Teams consist of 4-8 digital audio technology students and 4-8 digital art and animation students with a goal of completing one full production, from concept to delivery, in a deadline-driven 8-week period. The finished films and animations run anywhere from 10 seconds to 1 minute in duration. The class exposes students to the full production cycle, the chance to directly work with industry professionals, an actual client, build client relationship management and communication skills and develop very strong pieces for immediate use in students' portfolios - which gives our students an enormous advantage on their employment interviews. http://cogswell.edu/student-projects/mediaworks/

The ways in which students experience project-working and learning with a commercial organisation are captured in a presentation available on YouTube <u>https://www.youtube.com/watch?v=860LqtknBx4</u> In June 2016, AC Transit, California's third largest bus company announced that it planned to construct an \$80 million Bus Rapid Transit system (BRT) in East Bay, California. The company researched potential organisations who could work with them on this important project and gave 'overwhelming approval' to Cogswell College's Media Works programme. A team of 25 students worked closely with AC Transit staff, under the guidance of two

tutors, one in the digital art and animation department, the other in the audio department, to produce an educational and promotional video designed to enable ACT to explain their new transportation system concept to the public.

The students' presentation <u>https://www.youtube.com/</u> <u>watch?v=860LqtknBx4</u> describes in detail how they had only two months from start to finish to produce the video. They explain how they met with the client in order to fully understand their brief, then divided into subgroups to identify key elements for potential inclusion in their product. They repeatedly interacted with the client, asking questions, sharing and pitching ideas until they were both clear what was required.



Next, they devised a story board, into which they built the specific scenes, sounds etc that would need to be researched and created. Producing these was not always straightforward, and they quickly found that what might have appeared the perfect element fell way short of the standards anticipated. One of the composers,

The audio and video sub-teams each had their own tasks to complete, and two project managers were responsible for keeping everyone on schedule and informed each other's progress. The planning was meticulous; each member of a team knew precisely what was expected of them and when they had to deliver. Sometimes they had to apply their creativity to problem solving, as happened when they realised that they could not achieve the technical requirements in the time allocated without subdividing their work further as illustrated in the adjoining slide. One person explains how he went into a meeting as a sound manager, but had to learn on the spot how to be a tactful script adviser as he led the writer of the voice-over script through a process of condensing his text to meet the time limit.

By the end of 2 months intensive work, the students had produced a 3-4 minute video, with bespoke music and sounds to accompany bespoke animations. Through their interactions with the client they learnt many things that would have been difficult or impossible to learn in a classroom and they gained valuable insights into production standards and processes of working required in the commercial world. Perhaps most important of all is the way students gain experience of working with and adapting to the sort of challenges they will meet when they leave college and enter the commercial world. In the words of one the teachers.

Julius: we're not trying to grow software users or specialists. The most important skill and the most valuable skill, that students get from Media Works is... the ability to adapt. So if they're given different expectations, not something that they know how to do, something they're not used to doing or for that matter have ever done before, they can figure out a way through the process of figuring out how to do it. That's what they learn through Media Works and they are going to be able to apply that figuring out process to any situation in future.

Pedagogy

The two teachers who are responsible for Media Works have practical experiences of the commercial world as well as being experienced teachers. This means that pedagogically they can blend their knowledge of commercial practice with the educational requirements of their programme. They act as Visual and Audio Director's - forming a bridge between client and students and a bridge between the two student groups involved in the audio and visual elements of production. Their perceptions of their role might be summarized in these statements..

Tony: Partly I see myself as a facilitator..... I try to make things easier for my students, but I don't necessarily give them the answers...... we have to guide the students to stick to getting the stuff done for the project at hand. How do we teach them to stay focused? I guess we don't really tell them how, we just give them the expectation. This is what you need to do, this is how it's going to be in the real world. So I think another one of my roles as a teacher is being a coach and a broker.

Julius: I think facilitator is a good word, but the way I like to see myself is more of a 'challenger' or a 'disrupter' I try to push students outside their comfort zones. Try to make them do things that they're worried to do or they will never think about doing, or they don't know if it's possible. I like to do things that are very unexpected and see what happens. Like put students in a situation when they have to come up with a solution on their own, where it's not a technical question that's searchable on Google. Not how it has been done before? kind of question, but put them in a situation that I have never encountered in 20 years of doing this. And see what happens, see what they do with that situation, see how they cope with it and come out of it on a good side. So as a teacher I have tried to push them.

The other role I have as a teacher in Media Works is to keep things relevant.... I think relevance is most important for students. Everything that they do has to be done towards the completion of the project goal: the requirements of the client. It has to express what the client wants not what they feel like doing. When the students are immersed in these really hard to solve or manage situations, it's not enough that they come up with a solution that gets them out of a situation or solve the problem. The solution has to work for the project, for the client.

Creativity

Ultimately the students' project was to work cooperatively to produce, make or create a short video film that was relevant and meaningful to the client. They were using their knowledge and technical skills and creativity to produce something that did not exist before which fulfilled a particular purpose defined by the client. The teachers explained their understandings of creativity in this pedagogical context in these terms.

Tony: it's not so much that we're trying to get the students to be creative, it's more about trying to get them to use their creativity in a way that is useful. One of the first things we really try to get across to our student is what we call the REE method.

Julius: when there's a client, if there's a task at hand to accomplish that requires creativity in order to achieve the goal then you have to follow these three things, the relevance, the efficiency and the effectiveness.

Tony: As facilitators our role is to challenge the students to keep thinking and keep refining everything they're doing. But a large part of what we do ends up just becoming training students to work. Because once you have the concept and once you have the storyboards approved, then everything is based on those storyboards. I don't think it's so much creativity anymore. At that point, it's execution. We have accomplished the 5% creative inspiration and the other 95% is the perspiration or something like that.

Julius: The way I look at creativity in the context of Media Works is not the same as the way artists think of creativity, which is they use their imagination to just think outside the box, try something that no one has tried before, and as a teacher coming up with exercises and assignments for students to do that.

For the kind of work we do in Media Works this approach doesn't work. I like to think of the problem as if there are two boxes, one box within the other box. The small box, the inside box is what you have to think outside of. But the large box around it is what we would like to stay inside of. That's basically what the client defines, and is the message for the piece.

Students have the advantage that they do not take the same approach as an experienced professional worker they do not use the cookie cutter solutions that everybody in the industry sooner or later defaults to because they don't have that past experience. It's actually pretty easy to work with creativity in a way as these students are naturally creative. What I found was hard, at least on the audio and music side of MediaWorks is to stay inside of the big box which is where the REE criteria are very helpful.

I would say this is at the heart of the MediaWorks philosophy on creativity and it is different from your typical arts school that just do whatever they want to do or a technical school where they learn to apply the technology but they are told what to do and they are basically using software to get from point A to point B, both points given to them.

In this description of creativity in the students' working and learning process it seems that they are creating meaning for themselves but meaning that is also relevant to the client.

Julius: Absolutely. It's very true that the students are creating meaning and sometimes even our clients are finding additional layers to the meaning of their own business which is pretty astonishing. The other part of this process of finding and creating new meaning is that students have to also understand the meaning behind a business or a brand, what that really stands for. Sometimes it's not easy for them to gain this understanding about a field they know nothing about. The students have to learn to ask the right questions so it's really important that they have to do the research to find the right questions to ask....they need to ask questions to discover what they need to know to apply to the project to find possible good answers. I think the process is a really good brain exercise for them, as a matter of fact for us, for Tony and myself as well.

Collaborative ecology for learning and creating

Media works is an interesting example of a pedagogical approach that seeks to facilitate the development of an ecology for collaborative learning and achieving in which a number of participants pool their knowledge, skill, creativity and all the other things they bring to the project. The ecology is clearly developed in the context of an academic programme but a crucial dimension of the context is the relationship and interaction with a client with particular interests and needs that relate to a business. The affordance for learning and creativity is in the clients brief and the multiple perceptions and perspectives brought to bear on the brief but it is only through

the relationships and interactions with the client that the meanings in the brief and the business can be fully understood and then achieved. The collaboration followed a structured process similar to that which would be used in a commercial environment facilitated by teachers with commercial experience. Their role was not only to guide but to challenge and ensure coordination across the work groups. Work was undertaken in specialized spaces with specialized technological tools including software.

Figure 10 Location of Media Works in the framework for learning ecologies

In terms of the ecological conceptual spaces framework shown in Figure 10 Media Works is located in the academic programme in domain B but some of the learning experiences occur off campus in domain C and involve interacting with a commercial client. The distinctive feature of the ecology is that learners' creativity is used to meet the needs and interests of the client, as it would be in any commercial undertaking. They are effectively learning to create and work in an ecology similar to what they will experience when they leave university and start working in the media industry.



#4 Swaraj University

Our exploration led to the discovery of an institution that sets out to encourage and help learners to create their own ecologies for learning and personal creativity and empower them to bring their ideas into existence so they can make a positive contribution to the world in the form of new [green] social enterprises that meet the needs of their communities. Since its inception in 2010, Swaraj University near Udaipur city in the Rajasthan province of NW India, has provided a platform for young people to identify their vision and engage them in developing the skills and practices they need to turn their vision into reality. In this way Swaraj University.

The concept of swaraj, or self-rule, was developed during the Indian freedom struggle. The University uses this concept as a foundation principle for educational and pedagogical cultures and practices to support and enable self-directed and self-managed learning.²⁵ In his article, Rahul Hasijah, described several pedagogical strategies used in the two year programme aimed at developing social entrepreneurs.

A distinctive part of the educational experience at Swaraj is the focus on holistic learning; which means it is inclusive of understanding self, working with others including the local community, harmonizing relationships at home and society, and understanding body and emotions, and much more. Life at Swaraj University teaches young people to be an active citizen in a democratic community. Right from deciding a day's schedule to deciding what kind of food experiments the community want to try, from resolving a conflict to sometimes sitting 8 hours at stretch in a community meeting struggling to come to a decision - all of it has help khojis (the name given to learners) build muscle to live in any kind of group - be it in a family or workspace.

An educational concept of 'swaraj' (learners as self-determined, self-directed, self-managed and self-regulating) underpins the pedagogical practices that are used to develop learners so that they can become proactive beings. There are also strong elements of ecological thinking embedded in the relationships that are cultivated between the learners and their mentors and facilitators and the natural and social environment in which they are learning. For example, Khojis are also empowered to build their own support structure involving parents, peers, friends, mentors, and other people who can motivate, inspire, instigate, critique and help them through their journey.

"The world is my classroom, each day is a new lesson, and every person I meet is my teacher" -Craig Harper



Each person's learning programme is individualized according to his/her specific interests, talents, questions and dreams. There is ample scope for learners to develop a multidisciplinary curriculum. There is a strong focus on apprenticeship learning, leadership development and community living. In the area of community living, learners explore healthy and sustainable personal lifestyle choices, gift culture, co-creation and democratic decisionmaking. Decisions regarding day-to-day functioning. is done through the form of consensus, with a space for each person in the Swaraj community, be that learner or facilitator, to express his/her voice.

The world is our classroom! Swaraj University challenges and helps learners to 'self-design' their learning processes. Rather than being dependant on external sources and frameworks for one's education, we believe in enabling the learners to take responsibility for their own education and hence design their own learning path. A learner at Swaraj is hence called '*khoji*' or 'one who seeks'.



In a self-design learning approach, each khoji is encouraged to ...

- Explore their learning styles, questions and passions without the institutional constraints that smother interest and joy, and breed mediocrity.
- Engage consciously with unlearning, jugaad (playful improvisation), deep dialogue and gift culture.
- Design individualised learning webs that are based on authentic real world trans-disciplinary projects and intergenerational relationships.
- Build feedback frameworks and mechanisms to reflect on their learning. Learners get the opportunity to build a personal *feedback council* and have supportive peer cohorts who are available to help the them reflect on and improve their work.
- Use the close, supportive learner community as a base from which to engage with local, regional and global communities.



With this as a basis, the *khojis* design their own learning plan. Their learning plans revolve around one core feature of this programme - intimate mentorships. Swaraj University aims to revive the traditional approach to education in India, through a *guru-shishya parampara*. That is, learners being placed one-on-one with mentors (also called *ustaads*) who share both a range of practical skills as well as personal philosophies/wisdom. These mentors have been carefully selected to ensure that, in addition to being cutting edge leaders in their respective fields, they are able to engage with youth in a true spirit of co-learning and friendship.

This is complemented by...

- **Khoji meets:** The *khojis* converge every few months to cross-fertilise their learning and build perspectives on the core principles of Swaraj at our campus 30 kilometres away from Udaipur city. (To know more see Campus)
- Individualised self-study program: After getting initial exposure to several practice areas, *khojis* chart and pursue their own path of study based on their interests. They are guided in developing their self-study program using various books, websites, films, etc. Significant attention is given to processes of self-awareness, self-understanding, and examining their life choices.
- **Skill workshops:** *Khojis* have the choice to participate in workshops featuring basic entrepreneurial skills as well as other skills such as: communication, facilitation and group dialogue, computers, financing, marketing, cooking, sewing, farming, yoga, film-making, web design and blogging, desktop publishing, writing of proposals and business plans, documentation, working English, etc.
- Service projects: *Khojis* design individual and group projects in collaboration with local communities and social movements.
- **Organisational internships:** *Khojis* can do internships with leading social organisations and social movements spread all over India. This experience gives them the opportunity to know the expectations of the real workworld.
- **International dialogues:** *Khojis* interact with and spend time with visiting students from other countries. In addition, they are able to engage in virtual interactions with partner programs from around the world.

Encouraging & facilitating creativity

The whole pedagogical approach to encouraging khojis to determine and design their own learning pathways taps into the deep interests and intrinsic motivations in which creativity can thrive. Indeed, one of the core purposes of the Swaraj approach is to develop people so that they are able to create their own learning projects and bring new enterprises into existence. Here are just two examples of strategies we employ to encourage khoji's to use their creativity.

One of the interesting experiments we do with the khojis in the first year of the programme is called Eklavya Ghumantu. Ghumantu means a nomad. And Eklavya is a mythological character who learnt archery by constructing a sculpture of his Guru as his teacher. He represents a true self-designed learner. Eklavya Ghumantu is an exploration of finding learning opportunities on the run. In India, learners are made to believe that learning could only be possible if there's an expert to teach you. So, the whole power of learning is shifted to that expert. Eklavya Ghumantu is a process where khojis are encouraged to go on the streets to search for and find their own Gurus. There is treasure of learning everywhere and potential teachers are everywhere. Artisans, cobblers, barbers, mechanics, and repair artists - the streets are full of people whom we can learn from. The khojis have to find these teachers and learn from them. It challenges their notion of learning and whom to learn from, encourages them to use their creativity to find and engage their own teachers and introduces them to many everyday contexts in which people use their creativity.



One red paperclip is a website created by Canadian blogger Kyle MacDonald, who bartered his way from a single red paperclip to a house in a series of fourteen online trades over the course of a year https://en.wikipedia.org/wiki/One_red_paperclip

Inspired by Red-clip challenge, in the second year of the programme we challenge They are given an object of some value and asked to exchange it as many times possible in lieu of new objects / resources of higher value. The learners then have to use their negotiating and resourcefulness skill to exchange.

A lot of processes at Swaraj University are indeed designed by khojis themselves. From the 1st meet of year 1, they get into designing the khoji meets and many aspects of the meet. Right from designing the conflict resolution mechanism to designing the way responsibilities will

be help and executed, from designing and hosting events, to setting their own criteria for graduation, the khojis do it all and they are encouraged and forced to use their creativity.

Experiments like cycle yatra, Eklavya Ghumantu, where they are not allowed to carry money or food, push them to think more creatively, and they have to use their imaginations and be resourceful.

Many a time khojis struggle to take initiatives because they get into the head-space too often and think on it so much that action seems to be a faraway thought. We encourage them to act, to try things out to make quick prototypes to shift into action and experiment without thinking too much. If they are taking up a big project, we ask them to make a quick prototype that breaks their fear and gets them involved in action so that they can learn from doing something that contributes to what they want to achieve.

In the year 2, khojis are encouraged to undertake a research, collate all the necessary inputs and experiences and design a Course Hamara (*Hamara*, in Hindi means Ours). Taking their cue from the online learning platform like Coursera, Course Hamara encourages khojis to put together their learning into a form that can leverage the project they are already doing and we believe that one of the best ways to learn is also to share/teach it to others. A few examples of Course Hamara taken up by this year's khojis are - human trafficking, life in Ladakh, pornography, disappearance of vultures, menstruation. Researching, designing and presenting a course on a subject that interests them deeply is another important way we encourage khoji's to use their creativity in the service of others.

Ecologies for learning and creating

The approaches used by Swaraj University shows how, admittedly on a small scale, an institution could frame its educational mission using ecological principles in which the learner is viewed and appreciated as a whole person interacting with their environment and everything in it. The ethos of encouraging and enabling learners to design and manage their own programmes empowers them to create their own ecologies for learning: ecologies that connect them in a fundamental way to their visions, challenges and the environment in which these are being engaged.

The social entrepreneur apprenticeship for thinking, acting, doing, being and becoming involves learners participating directly in the world to make things happen. Learning is action oriented and geared to the learners' own purposes. It involves them in viewing themselves and their environment as one. They learn how to perceive and make use of the abundant resources in their environment and how to enrich their environment in ways that enable them to achieve their goals.

In terms of the ecological conceptual spaces framework shown in Figure 11 the approach used at Swaraj University includes the B, C and D domains. It is dominated by the C and D domains with the goal of developing learners who can operate independently in the D domain.

Figure 11 Location of the Swaraj learning experience in the typology of learning ecologies framework



Determined by institution or other body ea a work placement or volunteering organisation

Provisional conclusions

Conclusions drawn from open-ended explorations can only ever be provisional. Exploration of the relationship between pedagogy, learning ecologies and creativity in higher education was driven by the belief that the world of learning outside higher education is not structured. In fact, its messy, confused, ambiguous, full of social pitfalls and conflicts, and any manner of things that will block or disrupt learning in the quest to achieve something of value.

Whether we're trying to prevent disruptive behavior, motivate preparation, inculcate integrity [or encourage creativity], exerting more control is not the answer. It locks teachers and students into a viscous circle. The more structured we make he environment the more they need. The more decisions we make, the less they are able to make decisions. The more extrinsic their motivation, the less intrinsic their commitment to learning [and to using their creativity]. The more often we do learning tasks for them, the less likely they are to assume responsibility for [designing their own tasks for learning]. The more control we exert, the more controlled they become. We end up with students who have little commitment to learning and who cannot function in less than a totally structured learning environment.

Weimer, M. (2002). Learner-<u>centered</u> teaching: Five key changes to practice. San Francisco, CA: Jossey-Bass.

The words of Maryellen Weimer³³ (Figure 12) very helpful in explaining why we are trying to explore this territory.

Figure 12 A justification for why it is important to understand the idea and practice of learning ecologies and their link to creating and achieving.

We can indeed see through the four case studies provided how teachers are encouraging leaners by empowering them to structure their own environment for learning, discover what motivates them, make their own decisions, and create their own tasks for learning in order to harness their own creativity.

My modifications in italics

Our exploration has reinforced beliefs that the ecological metaphor affords us the most freedom and flexibility to explore and appreciate the ways in which we and our purposes are connected to our experiences and the physical, social and psychological world we inhabit. Through our perceptions of this world gained through all our sensory means we decide to act in ways that we feel are creative, but our perceptions of creativity only have meaning to us in our particular circumstances, although others might also perceive our actions and the results of our actions as being creative.

Applying the ecological framework to each of the case studies we can see that the B, C and D domains all provide affordance for learners to create or co-create their own ecologies for learning with the ultimate aim of enabling learners to create their own learning ecologies in domain D.

Our exploration has strengthened our conviction that a teacher's pedagogical thinking applied to particular educational contexts leads them to create an ecology within which learners are able to learn and in the case examples provided, use their creativity. The exploration has revealed the importance of teachers' personal histories in shaping their thinking, beliefs and values so that the ecologies they create for their learners are unique to them and their circumstances.

We can see from the case studies that teachers play a key role in facilitating the process of enabling learners to work in unstructured learning environments or to structure the environment for themselves in ways that enable them to discover what motivates them, make their own decisions, and create their own tasks for learning in order to harness their own creativity to learn and achieve. The case studies reveal something of the pedagogies that are used to prepare, engage and facilitate learners in ways that encourage them to use their creativity. Teachers adopt multiple roles in the ecologies they describe. They facilitate in many different ways

- by showing and demonstrating, by leading, by encouraging questioning and challenging assumptions, by provoking, by meddling and brokering, by encouraging refection to learn from experience and through mentoring relationships and conversations. In an ecological sense they help learners to perceive the environment in ways that they, as a more experienced user and constructor of the environment, can appreciate the affordances in it. This perhaps might be framed as an ecological apprenticeship that is relevant to a particular field of activity, learning and achievement.

The illustrations show how *challenges* and *unfamiliar situations and contexts* are important catalysts for engaging with problems in creative ways. They show how the creativity that emerges from learners' engagement with a challenge is focused and *relevant* or *fit for purpose* for the particular contexts and circumstances. They also show how important the relationship is between teacher and learners and the particular roles that teachers play in these pedagogical environments that seek to stimulate and provoke creativity that is relevant. They also reveal that teachers often have complex pedagogical histories involving learning, working and creating in both practice and educational contexts such that the pedagogies that emerge are 'hybrid'. This tendency to hybridity seems to be an important feature of the pedagogical environments described in these cases 'environment shapes our actions and we shape the environment'¹⁶, to which we might add the idea that past environments we have experienced (like working in a commercial environment) may shape how we structure our present (educational) environments

Our project has only taken the first step to explore these ideas and we will continue adding to the examples. If you have an example of practice you would like to share through our magazine, please contact me. We will continue to add further examples to our CAM7 thematic over the next year and I will update this synthesis in the light of further contributions.

Next steps

All too often in education we talk about creativity in a way that is not contextualized. But for creativity to have value beyond an individual it must be relevant to a particular context or purpose. In the next stage of Creative Academic's exploration of creativity in higher education we will focus on the work environment and examine the ecologies people create to achieve in environments that are not structured specifically for learning, but which demand learning in order to achieve and create something of value. In this way we can perhaps begin to connect backwards to signature pedagogies and signature experiences employed in higher education to prepare learners for the *white water world*³⁴ they will eventually inhabit.

CREATIVITY IN PRACTICE

In an attempt to gain fresh insights into the meanings of creativity in different disciplinary or other practice settings we are looking for people who would like to collaborate by sharing a narrative of the way practitioners tackle a typical problem or challenge in their field using the learning ecology framework we are developing and then identify the meanings of creativity in this practice context.

An illustrative narrative can be found on the Creative Academic website http://www.creativeacademic.uk/creativity-in-practice.html

Alternatively, if you are willing to create an oral narrative we can produce a transcript of the conversation.

If you are interested in collaborating please contact the project leader Professor Norman Jackson normanjjackson@btinternet.com @lifewider1

Contributions will be published in Creative Academic Magazine and the project will run between November 2017- November 2018

Our appreciation of contributors

I would like to express my sincere gratitude to everyone who has contributed to our informal exploration over the past 12 months (see contents at front of this issue). I hope that readers will see the value in what we are trying to do and be inspired to share their own experiences, practices and thinking through future issues of our magazine.

Norman Jackson

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<u>#creativeHE</u> combines offline & online conversations and activities Chrissi Nerantzi

<u>#creativeHE</u> is an open collaborative community for creative and innovative practitioners growing out of the Greenhouse initiative that operated from 2014-2016 at Manchester Metropolitan University (Nerantzi, 2016) and the online <u>#creativeHE</u> community at <u>https://plus.google.com/communities/110898703741307769041</u> through which a series of online events and courses have been offered by the Centre for Excellence in Learning and Teaching at Manchester Metropolitan University <u>http://www.celt.mmu.ac.uk/</u> in partnership with Creative Academic <u>http://www.creativeacademic.uk/</u> and facilitators from a range of institutions nationally and internationally. In the coming year we will continue connecting, collaborating, experimenting and learning together online, what is new, is the addition of gatherings locally, initially in the NW of England but ultimately anywhere there is an interest and we are welcome.

This initiative aims to support pedagogical rebels and free-thinking innovators in experimenting with, developing, sharing and getting support for novel learning and teaching ideas as well as initiate and disseminate research activity around these that have the power to transform the student and staff experience within and beyond institutional boundaries.

This community is open to anyone who would like to join, academic staff, students and the wider public. All who have an interest in creative and innovative approaches to teaching and helping others learn.

We plan to meet physically on a monthly basis, each time at a different institution. During our gatherings, we will have the opportunity to get to know each other, share and grow new ideas, take risks and support each other in our creative adventures, experiment and play, as well as test and develop pedagogical ideas and identify ways to take them forward.

We will continue using the <u>#creativeHE</u> online community space which now supports and connects a global community of over 600 people. Furthermore, this space will offer additional opportunities for professional development through online discussions, events and courses that are organised through <u>#creativeHE</u>, the Creative Academic and the wider academic community. The openly licensed <u>#101creativeideas</u> project will help us collect and share our ideas and the pedagogic innovators project (#pin) to engage in related research activities.

Our monthly local gatherings will be half days. We welcome institutions who would like to participate in <u>#creativeHE</u> events by organising a local gathering. All we need is a flexible space for up to 30 individuals.

We suggest that each gathering features time for socialising. As the gatherings will all be free and open, we encourage each participant to bring a gift of food and/or non-alcoholic drinks to share with other participants. Homemade and more healthy contributions are very welcome as are foods from different cultures. In this simple way we aim to encourage sharing of the many cultures that make up our society.

The institutional contact will coordinate the monthly gathering and a booking system will be in place through CELT at Manchester Metropolitan University.

Our first local gathering will be in October at the University of Salford. More details regarding this will follow.

If you would like to become a creative champion in your institution, please get in touch with us.

We are really looking forward to seeing you again online and locally,

Chrissi and Norman on behalf of the <u>#creativeHE</u> team

GREAT THINGS HAPPEN WHEN PEOPLE COLLABORATE TO LEARN TOGETHER

Visit https://plus.google.com/communities/110898703741307769041 for details of forthcoming events

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 Image: Creative Academic champions creativity in all its manifestations in higher education in the UK and the wider world. Our goal is to support a global network of people interested in creativity in higher education and committed to enabling students' creative development. Our aim is to encourage educational professionals to share practices that facilitate students' creative development in all disciplines and pedagogic contexts, and to connect researchers and their research to practitioners and their practice. Our ambition is to become a global HUB for the

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| STHITY TAKES | CUP, | What do you want to share | 9) | | Chrissi Nerantzi Owner + General stuff, announcements ~ Helio everybody. | * | |
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| All posts | ~ | Chrissi Nerantzi: Thank you Ell | lie. Join us if you are around. That | nk you | #loveld - loving this invitation! Thanks #clmooc! Originally shared by Kevin Hodgson | | |
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