

Teaching for creativity

Notes of a workshop discussion held at the University of Hertfordshire in April 2005

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Teaching for students' creativity in the discipline:

Creativity can be facilitated and demonstrated but not taught in a transmission sense. Many examples of ways of teaching to promote students' creativity were offered but none of them seem to be specific to a discipline. And even though participants may not have been aware of a particular approach they could see how it could be used, albeit in an adapted form in their own discipline.

What types of creative capacities are teachers trying to develop in higher education?

- . Analytical abilities (engineering)
- . Ability to apply theory to practice (engineering)
- . Awareness of personal freedom (informatics)
- . Capacity for generating ideas
- . Capacity to explore and discover
- . Clinical reasoning focused on the individual (occupational therapy)
- . Critical thinking (engineering)
- . Enquiry based exploration (engineering)
- . Willingness to explore other domains of knowledge/approaches (Informatics & Design)
- . Facilitation that unlocks imagination (OT)
- . Flexibility and fluidity
- . Giving feedback (biology)
- . Giving guidance (biology)
- . Openness to possibilities (Informatics and Design)
- . Problem-based learning (OT)
- . Problem solving
- . Promoting innovation
- . Reading
- . Raise enthusiasm (English)
- . Relating to own experience (engineering)
- . Reasoning (engineering)
- . Risk taking (Academic Development: business)
- . Self-awareness
- . Thinking
 - o Breadth of thinking (business)
 - o Out of the box or lateral thinking
 - o Idea generation
 - o Critical thinking
 - o Original thinking within boundaries (Accounting)
- . Understanding – being able to apply practice in context (project management)
- . Willingness to unlearn
- . Willingness to talk with other disciplines (engineering)

What are the particular creative habits teachers are promoting through disciplinary study?

Engineering

- Finding and creating problems
- Defining problems
- Looking for the right solution
- Designing
- Using analogies

Accounting

- Creative approach to problem solving – tax avoidance/ tax evasion.

Biology

- Finding a way forward
- Meaningful explanation
- Expression of understanding

Health and Social Work

- Taking risks
- Being accountable
- Setting boundaries

Occupational therapy

- Enhancing the creativity of clients to empower them to solve their own problems
- Use of self

Nursing

- Developing empathy with clients
- Seeking novel solutions

Architecture & Design

- Imaginative decision making
- Enhancing the quality of life – supporting humanity

Academic Development

- Freedom to learn through facilitation – not teaching
- Reducing fear
- Giving people space to think

Drama/poetry

- Relaxation of mind to encourage receptivity to feelings/ideas

Informatics

- Computer-based learning and multimedia
- Designing and building software artefacts
- Identifying new problems and spaces
- Finding the problem

Playing

- Have a play with trial and error to discover (engineering)

Enquiry

- Questioning the past

How do teachers try to develop these things?

- By creating opportunities to be creative
- By creating a secure environment
- Building trusting relationships
- Revealing myself
- Through an emotional engagement with students
- Questioning rather than telling
- Using enquiry
- Recognising creativity in my students
- Listening to students, understanding them
- Giving students a say in the design of the process
- Giving guidance
- Giving formative feedback
- Providing a range of support mechanisms

Being aware of others

- Put yourself in others' shoes (*Engineering and Architecture*)
- Recognise the different roles of the tutor (*Business*)

Using students as a resource / community and knowledge building

- Create an on-line research community for knowledge building by students who can decide their own research topics and their own enquiry paths (*engineering / CAL*)
- Encouraging intuitive action (*Biology*)
- Think-Pair-Share
- Learning contracts (*Business*)
- Awareness of the difference between explicit and implicit learning and knowledge (*Engineering*)
- *Peer Learning (Occupational Therapy)*

Using Drama / Role Play

- Teaching in a role – creating an imagined context in a community – students are people in a place/time confronted by a particular problem. (*Education*)
- Developing understanding by encouraging students to imagine themselves as another person in a particular role.
- Role swapping
- Acting out user profiles
- Use of role play actors (*Occupational Therapy*)
- Students act out different members of a team each member with a different function (*Engineering*)

Story telling

- *Story telling is recognised in all disciplines*
- Use of scenarios
- Storyboards
- Illustrations through anecdotes
- Telling the history of past events
- The story of a process
- Building an imaginary person and use this person as a context for teaching
- Use history to build pictures of the development of accounting

Graphical visualisation

- Through mind maps

- Through annotated diagrams
- Through sketches
- Through pictures/photos
- Through simulated models
- Use of symbolic design language / annotated sketches

What teachers do

- Challenge learners
- Self-evaluate and meta-evaluate professional skills
- 'A master reveals himself in limitation' Goethe
- Facilitate to enabling individuals to contribute and collaborate

Thinking

- Encouraging thinking outside the box

Communication within and beyond the subject

- Articulating / expressing ideas
- Transmitting ideas
- Translating ideas – within and across disciplinary thinking

Synthesis

- Making multi-disciplinary links (Architecture)
- Making new connections (Project Management)
- Synthesising information / ideas

Producing products or solutions

How to enable students' creativity

- Must keep students interested, motivated and entertain
- Promote trusting relationships: teachers must reveal something of themselves in order students to do so
- Encourage interaction between students and teacher and students
- Give students permission to be creative
- Avoid asking students why? It can paralyse them
- Teacher must facilitate and stimulate, not transmit information
- Triggers our process driven , not content driven
- Must encourage students to consider all options , but find a justified solution within the context and parameters for the problem
- Encourage self theory. Help students develop a theory from their practice.
- Help students to recognize and overcome barriers
- Students need a toolkit of skills for creativity
- Equip them with skills for divergent thinking such as mind mapping
- Encourage students to engage all their senses (smell/touch the teacher! each other! books etc)
- Creating lessons for discovery.. trusting that discovery will emerge from good conversation
- Surfacing prior knowledge and experience and using these as hooks for further learning
- Show students that no knowledge is ever wasted
- Show students that learning for one thing can be used in another context
- Help students to connect up their seemingly unrelated learning
- Challenge assumptions
- Creative environments where students lose their self-consciousness so that they can express themselves as individuals
- Help students draw create their own language of creativity: a teachers language may not be the most appropriate language to describe creativity from the students' perspective

- Students need to be active participants and own their own learning experience
- Participate in storytelling
- Create the conditions are experiential learning
- Make good use of a wide range of media (drawing, painting, collage, rich pictures, models, IT visualizations....)
- Provide careful and timely support for the creative process
- Old students learn to relate to improving themselves
- Encourage discipline, discourage *anything goes* attitudes

Reflective practice

- Don't tell them too much (engineering)
- Need to learn from experience
- Need to learn through reflection that there are often no correct solutions
- Need to unlearn / relearn through reflection
- Need to **unlearn** restrictions, mindsets and barriers
- Need authentic situations for reflective learning
- Need open-ended problems with open solutions