Creative Interventions
NTFS Project Case Study

UNIVERSITY OF SURREY

Creative Academy

Creative Academy is a creative intervention aimed at transferring and adapting creative thinking and facilitation techniques used in the design world to the context of teaching and learning in higher education. It comprises a one or two day training and professional development process aimed at helping higher education teachers and their students develop their ability to think like a designer.

Transferring 'design thinking' techniques to the design of teaching and learning in higher education

http://surreycreativeacademy.pbwiki.com

SCEPTrE
Surrey Centre for Excellence in Professional Training and Education

Transferring 'design thinking' techniques to the design of teaching and learning in higher education

Summary

Creative Academy is a creative intervention intended to transfer the pedagogies used in design education and the commercial world of design to the design world of higher education teachers and ultimately to the experiences of their students. These pedagogies are used to promote a way of thinking (design thinking) usually deployed with groups and teams in order to encourage and facilitate new and novel ways of thinking about a problem or opportunity. Higher education teachers are designers of educational experiences and there is value in transferring these practices to the design of teaching and learning.

For teachers and others who facilitate students' learning 'design thinking' can be used to aid problem solving in many disciplinary, multidisciplinary or trans-disciplinary contexts. By introducing students to these techniques we are enhancing their ability to work with complex problems and helping them to prepare for a wold that requires people to utilise their creative as well as their analytical abilities.

The Case Study is in the form of a text-based Guide with video clips of the techniques that are described. These can be found on a dedicated wiki

http://surreycreativeacademy.pbwiki.com

Introduction

This Case Study is a contribution to the NTFS Creative Interventions Project being managed by the University of the Arts in collaboration with the University of Surrey and the University of Bournemouth. One of the aims of the project is to consider whether pedagogies used in creative arts education can be incorporated into the teaching and learning strategies of other disciplines. We have looked at the pedagogies used to promote **design thinking** which is used by designers to think about possible solutions to their design problems. Recognising that higher education teachers are designers of educational experiences, we believe that there is value in developing teachers' capability for design thinking so that they can become more imaginative designers. This Case Study is based on a creative intervention at the University of Surrey aimed at adapting facilitation techniques used in the world of design to other higher education learning and teaching contexts. The intervention is part of a programme of work aimed at helping the university support the creative development of learners so that they are better prepared for the complex professional roles they will enter when they leave university.

[1] Teachers design learning experiences at the level of a specific activity like a tutorial, a whole teaching session, field or laboratory work, a module or a whole programme.

Norman Jackson and Fred Buining
Surrey Centre for Excellence in Professional Training and Education (SCEPTrE)

What is Design Thinking?

The world of design demands innovative ideas – new ways of seeing, doing and making things. Designers have to think differently about something in order to innovate. Higher education teachers tend to think about teaching and learning in the way that they have been taught or encouraged by the norms and traditions of the disciplinary peer group in which they operate. The idea of a creative intervention is to encourage people to utilize their creative thinking abilities so that they might see the problems and challenges they are working with in a different way and through this process create new and better solutions.

Design thinking is a process used by designers for the practical, creative resolution of problems or issues to discover better design solutions and improve future results. Design thinking is a creative process based on the generation of many ideas and the selection of really good ideas from the many. In order to do this it is necessary to think generatively and postpone judgements on the ideas that emerge. Encouraging people to think outside their usual ways of thinking is an important feature of the process since this can often lead to novel solutions.

What does design thinking feel like? One of the biggest obstacles to using design thinking to solve problems in higher education is that it requires us to think and behave differently to the scientific, analytical, rational, linear, and convergent process we normally employ in problem solving. Analytical in that we break problems up to study them. Rational in that we take an ordered approach. Linear because our thinking evolves in a particular direction and convergent in that we start with available choices and work toward a single best solution.

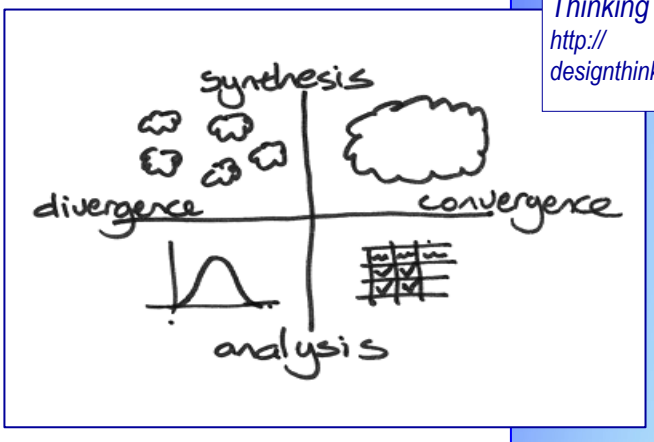
Design thinking is a different sort of process and it feels different. At times it can feel chaotic and uncomfortable. It requires people to suspend their disbelief in order to participate in the process and some people may not be prepared to do this.

Design projects must pass through three spaces (Brown 2008):

1) inspiration (the motivation for thinking: it might be a problem, an opportunity or sense of dissatisfaction that causes us to search for better or different solutions)
2) ideation (the generation, development and testing ideas that have the may lead to solutions)
3) implementation (the pathway that makes an idea a reality).

http://en.wikipedia.org/wiki/Design_thinking

Design thinking involves a series of divergent and convergent steps. During divergence we are creating choices and during convergence we are making choices. For people who are looking to have a good sense of the answer before they start, divergence is frustrating. It almost feels like you are going backwards and getting further away from the answer but this is the essence of creativity. Divergence needs to feel optimistic, exploratory and experimental but it often feels confusing to people who are more comfortable with a scientific approach to solving a problem. Design thinking relies on an interplay between analysis – breaking problems apart and synthesis – putting ideas together. The uncertainty of divergence and the integrative head-hurting complexity of synthesis are the unique characteristics of design thinking and they are also the things that make it both challenging and liberating at the same time.



Notes and image adapted from Tim Brown's blog Design Thinking Thoughts http://designthinking.ideo.com/

Designers have evolved visual ways to synthesize ideas and this is another one of the obstacles for those new to design thinking: a discomfort with visual thinking. A sketch of a new product is a piece of synthesis. So is a scenario that tells a story about an experience. Design thinkers create visual frameworks for synthesis that in themselves describe spaces for further creative thinking.

Creative Academy

The work problem that this Case Study tackles is called, 'How can we introduce the creative problem solving techniques used in the world of design to the world of higher education teaching? Our current solution to the problem is Creative Academy - A rich, experiential one or two day professional training experience for higher education teachers aimed at 1) developing their understanding of creativity in higher education and professional work situations and thinking 2) introducing them to the facilitation skills used in the design world.

University of Surrey Context:

The University of Surrey has a distinctive educational offer that is based on a strong commitment to preparing learners for the professional world. All of our undergraduates in all disciplines have the opportunity for a year long placement in a professional work environment that is relevant to the discipline being studied. We call this Professional Training.

The University claims to be developing students as '*self-reliant, adaptable, **creative** and ethically aware individuals' (Surrey Graduate Skills Statement)*. But what exactly are we doing to develop students' creativity? The Creative Academy training programme offers a way of building the University's capacity to support learners' creative development by: 1) encouraging curriculum designs and experiences that promote the application of creative thinking skills in group/team based processes, 2) building capacity for facilitating group creative processes in the central units that encourage and support student or staff development.

The Case Study draws on the experience and results of Creative Academy events held in April 2008 (two day event) and January 2009 (one day event). The Case Study includes this Guide, short film clips to illustrate the techniques and some supporting resources (articles, powerpoint slides and tools) which are hosted on a dedicated wiki –

http://surreycreativeacademy.pbwiki.com/

Story Board

1 Getting started

The process begins with an informal introduction to the programme. Participants form a circle and introduce themselves and say what they hope to get out of the experience. The whole group engages in a short 'warm-up' exercise. The one we used involved: 1) writing on a piece of paper three things you associate with being creative 2) screwing the paper into a ball and throwing it to another participant on the other side of the circle 3) reading what was on the paper and indicating with a tick or a cross whether you agreed with each point 4) adding your own three points and repeating the exercise. After repeating the process three times the participant keeps the final sheet and this can be used in the next stage of the process.

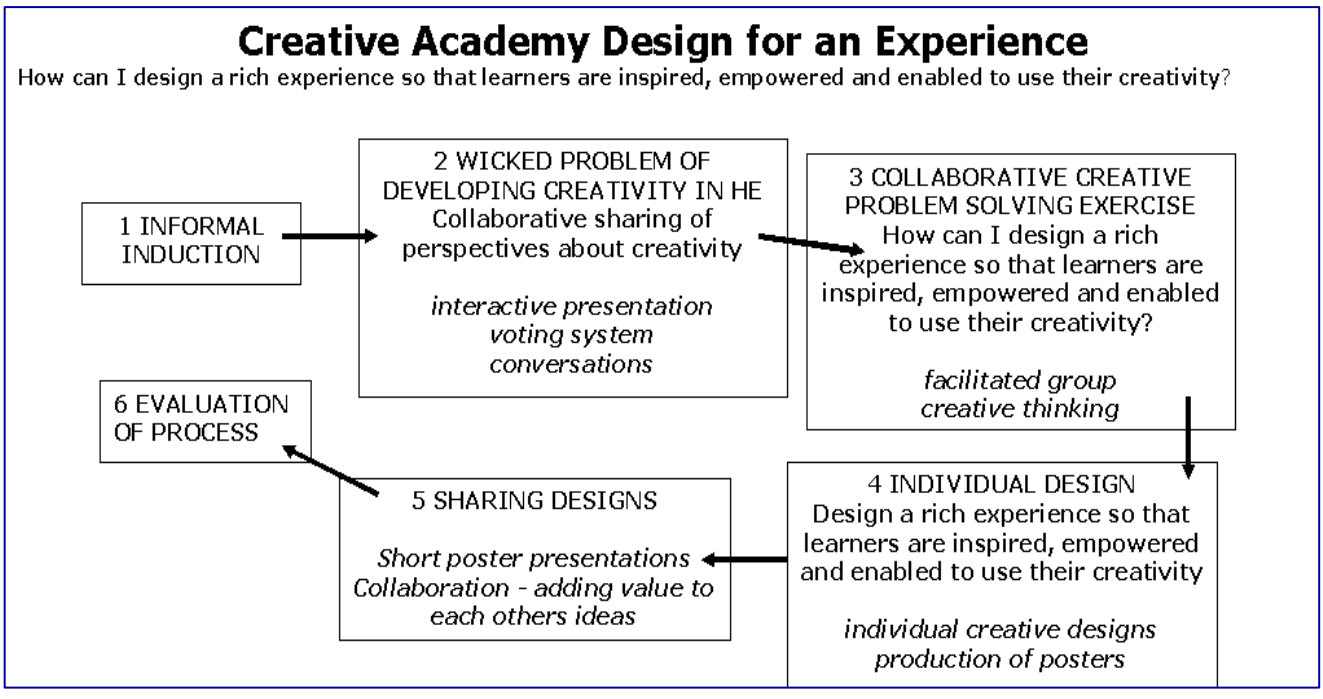
Explaining the purpose and the process

The facilitator explains that there are three overall aims for the Creative Academy:

1) to share and develop understandings of creativity in higher education and professional work situations
2) to learn some simple techniques to stimulate and facilitate students' creative thinking in group working processes
3) to design an experience to promote students' creative engagement with a discipline relevant problem on a module that you teach.

The hope is that participants will be inspired and empowered to make some curriculum changes that will enhance learners creative development.

The process is described using a map (Figure 1). It is important for the facilitators to allocate time to each part of the process (appendix 1) and to manage this carefully.



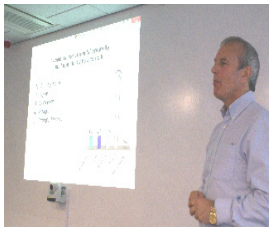
Creative Academy

Powerpoint presentation and wicked problem paper are included in the resources section of the wiki

2 Sharing understandings about creativity

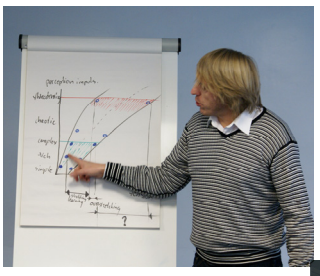
We tend to keep our beliefs about creativity hidden so this part of the process is aimed at making beliefs about creativity public. A set of power-point slides are provided to help the presenter and there is a background paper (The wicked problem of creativ-ity in higher education, Jackson 2008) but this is given out at the end of the presentation. The presentation can also be given using a voting system to reveal participants' beliefs about a range of propositions about creativity.



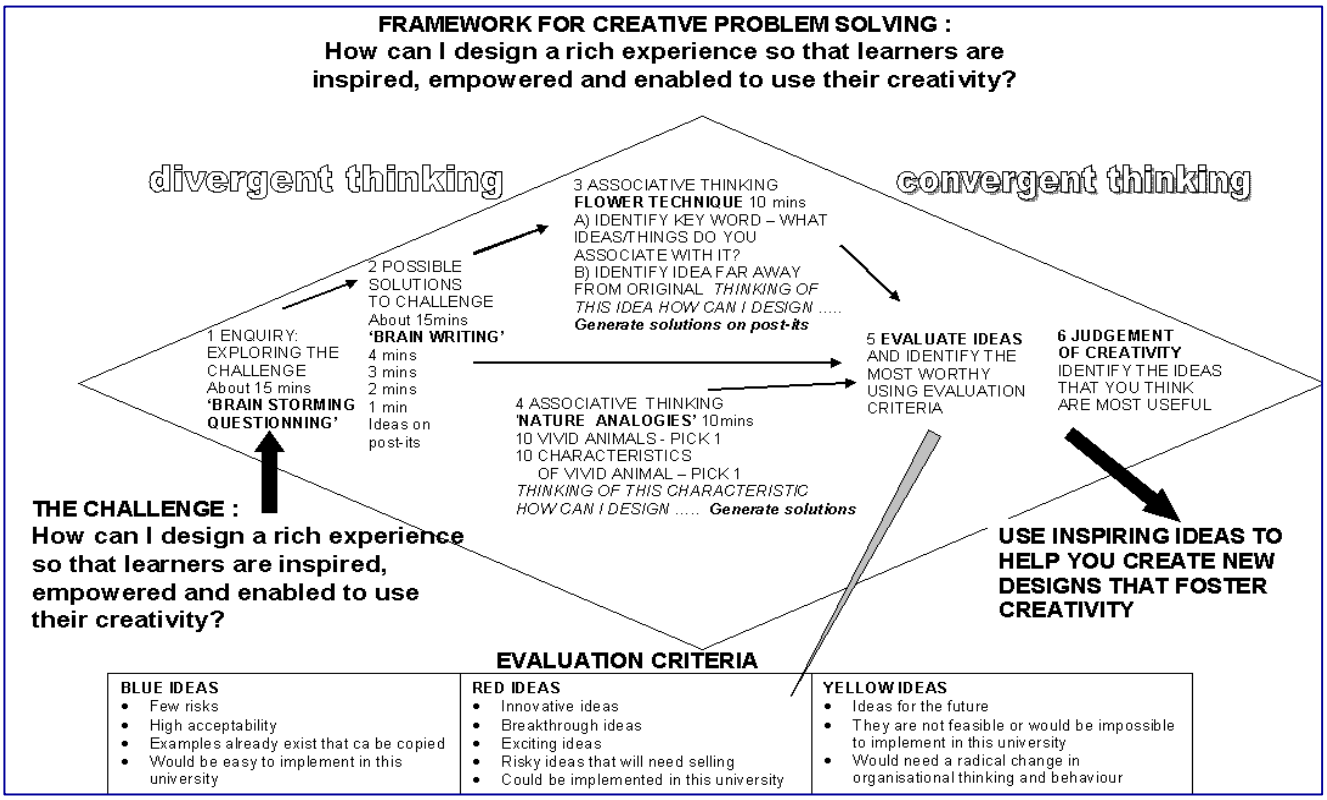



3 Collaborative creative problem solving: thinking like a designer

Preparation: You need a large wall or expanse of windows for this process and the wall needs to be prepared by systematically covering it with sheets of flip chart paper. If you can't use the walls use poster-boards or mobile whiteboards. Alternatively, white wall paper can be used. Participants sit in a semi-circle facing the papered wall. The optimum size for a group is 10-12 but this process can be undertaken with smaller or larger groups. If the group is larger than 15 it should be split into two groups each with a facili-tator. Participants will need half a pad of the larger posit-it and a felt tip pen. The process takes about 75 to 90mins to complete.




The facilitator introduces the process using the framework for creative problem solving. Participants have a copy of the map to help them navigate through the process. We now move from an essentially cognitive and discursive process to a more integrative thinking process to promote design thinking on a problem that is relevant to teaching: *How can I design a rich experience so that learners are inspired, empowered and enabled to use their creativity?* The framework for creative problem solving (Figure 2) is intended to generate new ideas that participants will be inspired to use in the design stage of the process. At the start of the process participants are given a copy of the map. The process is explained in terms of a series of techniques for facilitating divergent and convergent thinking – the sort of strategy that a design team trying to come up with an innovative idea might engage in.



Step 1 is to create a powerful question that will be the focus for creative enquiry. In our January 09 Creative Academy we used the question: *How can **I** design a rich experience so that learners are inspired, empowered and enabled to use their creativity?* The emphasis on **I** is important as this is all about individuals being able to change something in the teaching and learning situations that they have control over. The question is written across the wall of flip chart paper. Participants are invited to change words to make it more meaningful/ powerful.

Creative Academy

Step 2 having created a problem statement in the form of a *'How can I ….'* Question, the next stage is to reveal some of the complexity in the problem by posing many *How can I* questions that are triggered by the main question**.** Each participant needs a half pack of post-its and participants are instructed to write down their supplementary questions on a post-it – 1 question per post-it. After a few minutes participants are invited to read out their question to the rest of the group to trigger further ideas and the facilitator posts the question on the wall under the heading 'Questions'.

For example, *How can I create the space within a module to create a rich experience…? How can I secure the necessary resources? How can I find out what sorts of experiences, problems would inspire and motivate learners?* A group of 10 should generate close to 100 supplementary questions in 10 mins.

Step 3 Having explored the problem statement (principle question) and thought about the complexity within the problem through the many supplementary questions, it is now time to begin **generating solutions.** The facilitator introduces this by saying we are now going to harness the collective creativity of the group to generate lots of possible solutions to the problem.

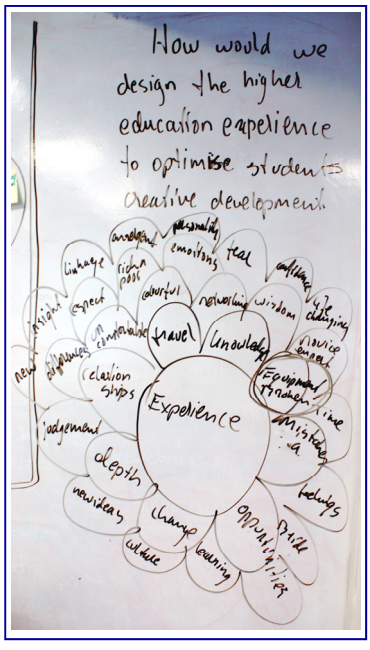
Brain storming techniques: You could use traditional 'brainstorming' but we use a quieter and more introverted collaborative process called **'Brain Writing**'. The facilitator informs the participants that they are to write down possible solutions to the question one solution per post-it. They have four minutes to write as many solutions to the problem as possible and they must not discuss their ideas. During the process the facilitator encourages participants to make their solutions as concrete and practical as possible. With a minute to go the facilitator gives a warning and encourages participants to get as many ideas down as possible.

At the end of four minutes the process is stopped and participants are asked to stick their post-its together in a long list, put their name at the top of the list and pass them to the person sitting on their right. They are to look quickly at the list and use ideas to trigger new ideas and add further post-its (one idea per post-it) to the bottom of the list but this time only 3mins is given. The process is repeated with a 2 min

and 1 minute being given to generate ideas. After the final round lists of post-its are given back to the person whose name is at the top of the list. Typically each person might have between 20-30 ideas. If the group has generated a lot of possible solutions, participants can be instructed to scan the list and pick the best 50% of ideas. These are then posted and the remainder (less favoured ideas) can either be discarded or put into another area of the wall.

Associative thinking techniques: At the start of the process the facilitator explains that he is now going to try to encourage participants to seek more unusual or novel solutions to the problem by encouraging them to think differently about the problem. There are many associative thinking techniques that can be used to encourage participants to generate ideas that have the potential for creating novel solutions to a problem. All work on the principle of picking a word/idea that seems far removed from anything to do with the question and using the instruction 'thinking of **the word/idea** *How can **I** design a rich experience so that learners are inspired, empowered and enabled to use their creativity?*

Flower Association: It's a good idea to draw the shape of a flower with its petals on the wall before you begin this exercise. The facilitator picks a word from the problem statement that is likely to generate some interesting ideas – words like design, inspired, empowered, experience from our problem statement, and puts the word at the centre of the flower. He then demonstrates the idea of associative thinking by saying 'when I say bicycle you say' and each participant is compelled to say something that they associate with bicycle. People quickly get the hang of it and the process turns to the word in the centre of the flower. The facilitator asks 'what do you associate with WORD?'. As words are shouted out he writes them in the petals – one word per petal.. The inner petals are quickly filled up. But this is only the brain dump of obvious associations, what the facilitator is really interested in are ideas that are far removed from the starting point so the facilitator will try to nudge participants further away with remarks like 'think of another context in which WORD happens'. Eventually some unusual even crazy words start appearing. The facilitator picks one of these and says.. 'thinking of **CRAZY WORD** *How can **I** design a rich experience so that learners are inspired, empowered and enabled to use their creativity?* Write your new ideas down one per post-it.



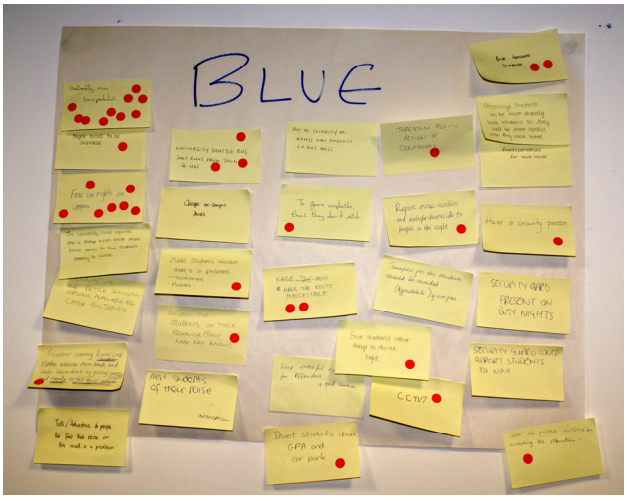
Analogies: In this associative thinking technique the facilitator invites participants to name 10 animals that are bright and vivid or interesting. He lists them on the wall as they are called out. He then invites participants to identify one of the animals and asks them to name 10 things about the animal. These are also listed. He then asks participants to identify one of these characteristics. Then using this as another word to inspire new and novel ideas, he says 'thinking of this characteristic: *How can I design a rich experience so that learners are inspired, empowered and enabled to use their creativity?* Write your new ideas down one per post-it. After a few minutes participants are invited to read out their ideas and post their post-its on the wall. The act of calling out the idea triggers further ideas in the group.

Generating more ideas from ideas already generated: To encourage deeper exploration the facilitator might draw attention to an idea on a post-it and then invite participants to use the idea as inspiration to generate further ideas.

Step 4: involves evaluating and selecting the most inspiring or useful ideas. With a group of 8-10 people over 200 ideas/possible solutions should have been generated on post-its by this stage of the process. The facilitator may number the ideas or leave them unnumbered. Referring to the map of the process, the facilitator explains that they have completed the divergent thinking process and they are now going to embark on a more convergent, analytical and judgemental thinking process. He instructs participants to spend about 5 minutes looking at the ideas and during this time they must select three ideas that they feel are particular good/inspiring/useful ideas. Using the criteria shown at the bottom of Figure 2 (reproduced in Figure 3), participants are asked to place the ideas they have selected in one of three boxes (3 sheets of flip paper stuck on the wall labelled BLUE, RED AND YELLOW). If there are a lot of ideas it is a good idea for the facilitator to number them to help with the next stage of the process.

Figure 3 Framework for evaluating ideas

BLUE IDEAS	YELLOW IDEAS	RED IDEAS
• Few risks	• Ideas for the future	• Innovative ideas
• High acceptability	• They are not feasible or would be impossible to implement in this university	• Breakthrough ideas
• Examples already exist that can be copied	• Would need a radical change in organisational thinking and behaviour	• Exciting ideas • Risky ideas that will need selling



When this task has been completed participants are invited to spend 5 mins looking at all the ideas and to make a selection in their minds. They are given 3 circular stickers which represent three chances to vote for ideas that if they could be implemented would make a real difference ie their individual evaluation of the best potential solutions that they think can be implemented. After 5 mins the facilitator tells participants to get ready to vote and then he instructs them to do so together. The ideas with the stickers can be organized at the top of the box above the ideas, that although worthy, did not receive any votes. The facilitator then reviews the ideas considered to be most useful by participants.

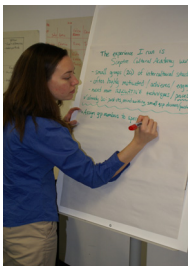
4 Individual Designs

Designing in pairs: In our April 2008 Creative Academy we had participants designing in pairs. It worked well (see video)

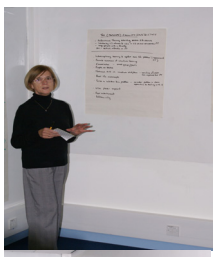
For this part of the process you need sheets of flip chart paper and coloured flip chart pens.

Step 1: The facilitator tries to encourage participants to decide the focus for creative enterprise within their practice with a question like 'where in your teaching and learning practices do you want to create your opportunities for creativity?'. Do you want to focus on short activities ('sprinklers'), on a whole teaching session, a whole module, a special project or throughout a programme? A chart on a sheet of flip chart paper can be constructed to illustrate the different levels. Having thought about it for a few minutes participants share their ideas with each other.

Step 2: The facilitator creates a framework within which individuals can create their designs using the prompt - 'the experience I will facilitate is....' as the stimulus for organising the design. Each participant writes at the top of a sheet of flip chart paper - 'the experience I will facilitate' …. and then a series of bullet points about the nature of the experience. Participants are encouraged to select ideas from those that have been generated to transfer and incorporate them into the individual's educational designs. This is the act of transferring ideas grown in another context and contextualising and adapting them to their own context as a way of evaluating their feasibility within an educational design.



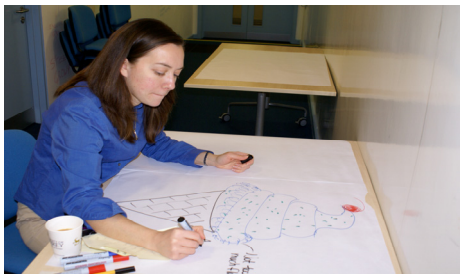
Step 3: When participants have completed their designs they stick their posters on the wall and prepare to present their ideas to the other participants. The facilitator invites participants to imagine themselves as students who are inspired by the ideas of the teacher and they want to offer their ideas and suggestions to the teacher on how to make it an even more creative and empowering experience.

Creativity in action! One of our participants stuck his design for creative action on his office door. It sparked a lot of interest from his colleagues.

5 Sharing designs – ‘pitching’ experiences to students

The final part of the process involves a 20min exercise when each participant produces a poster in response to the question ‘why would students want to come on your course and participate in your experience?’



The poster is used as the basis for a 1 minute sales pitch to other participants.

6 Workshop evaluation

The final act in a day long Creative Academy is to facilitate conversation around the experience and the learning and insights that emerged. The session also provides an opportunity for questions to be asked about the process of facilitation. We also talk about possible next steps and any support available for enabling participants to implement their ideas.

About the wiki

Filming is an integral part of our processes. They help us to reflect on our practice and also provide valuable resources to participants. We have put a selection of film clips to illustrate different parts of the process at http://surreycreativeacademy.pbwiki.ac.uk .

Each part of the process described in this guide has video material to illuminate the Guide. We will continue adding to the wiki and updating this Guide as we run future Creative Academy’s and as participants provide us with feedback on how they have used the techniques.

References

Brown T (2008) Design Thinking Harvard Business Review June 2008

http://web.me.com/deatkins/CIC/Seminar_Schedule_files/HBR-Timbrown.pdf

Jackson N J (2008) Tackling the wicked problem of creativity I higher education. SCEPTrE Scholarly Paper. http://surreycreativeacademy.pbwiki.com/Resources

Facilitators

Creative Academy has been developed through a partnership between Professor Norman Jackson (University of Surrey, Surrey Centre for Excellence in Professional Training - SCEPTrE) and Fred Buining principal facilitator at Zooangzi a Dutch organization specializing in enabling people and organizations to think creatively. Opportunities are available at SCEPTrE for training in these techniques.

Fred Buining – is an independent consultant www.fredwerk.com/ and a SCEPTrE Fellow. Based in The Netherlands, Fred's international consultancy 'Fredwerk ' helps organizations to change by discovering and harnessing their creative potential. His clients include both multinationals and small enterprises. He is working with the University of Surrey to help staff and students develop the skills to facilitate group creative thinking. See examples of Fred in action and talking about his work below.

Norman Jackson - is Director of the SCEPTrE project at the University of Surrey. In 2001 he established the Imaginative Curriculum network while working as a senior advisor with the Leraning and Teaching Support Network (the precursor to the HE Academy) to encourage higher education to take creativity more seriously. Some of the work that was undertaken by the network was published in a book by Routledge-Falmer, 'Developing Creativity in Higher Education: an imaginative curriculum.' He met Fred in 2002 when I participated in an intensive weekend creativity facilitation training programme aimed. Fred was one of the trainers and having been convinced of the value of such training he brought the techniques into HE Academy's Change Academy programme. Creative Academy is an attempt to provide more opportunity for educational professionals to develop their skills to facilitate creative enquiry.

Appendix 1

A Design Thinker's Personality Profile (Brown 2008)

Contrary to popular opinion, you don't need weird shoes or a black turtleneck to be a design thinker. Nor are design thinkers necessarily created only by design schools, even though most professionals have had some kind of design training. My experience is that many people outside professional design have a natural aptitude for design thinking, which the right development and experiences can unlock. Here, as a starting point, are some of the characteristics to look for in design thinkers:

Empathy: They can imagine the world from multiple perspectives—those of colleagues, clients, end users, and customers (current and prospective). By taking a "people first" approach, design thinkers can imagine solutions that are inherently desirable and meet explicit or latent needs. Great design thinkers observe the world in minute detail. They notice things that others do not anduse their insights to inspire innovation.

Integrative thinking: They not only rely on analytical processes (those that produce either/or choices) but also exhibit the ability to see all of the salient—and sometimes contradictory— aspects of a confounding problem and create novel solutions that go beyond and dramatically improve on existing alternatives.

Optimism: They assume that no matterhow challenging the constraints of a given problem, at least one potential solution is better than the existing alternatives.

Experimentalism: Significant innovations don't come from incremental tweaks. Design thinkers pose questions and explore constraints in creative ways that proceed in entirely new directions.

Collaboration: The increasing complexity of products, services, and experiences has replaced the myth of the lone creative genius with the reality of the enthusiastic interdisciplinary collaborator. The best design thinkers don't simply work alongside other disciplines; many of them have significant experience in more than one. At IDEO we employ people who are engineers *and* marketers, anthropologists *and* industrial designers, architects *and* psychologists.

Appendix 2

Creative Academy 2009
Facilitating Creative Thinking for Creative Action

Friday January 9th 2009 09.00-16.00

A one day professional training experience for higher education teachers aimed at: 1) developing understanding of creativity in higher education and professional work situations 2) learning some techniques to stimulate and facilitate students' creative thinking in group working processes 3) designing an experience to promote students' creative engagement with a discipline relevant problem on a module that you teach.

Preparation: You are invited to bring with you a story of how you have tried to encourage students' to develop and use their creativity.

Programme

Registration 08.50

Session 1 - 9.00-10.45 Norman Jackson

The wicked problem of developing creativity in Higher Education.

During this session we will use a voting system to share our beliefs and understandings about creativity in teaching, students learning and the professional world.

Session 2 – 11.00-12.45 Fred Buining

Using a Creative Problem Solving technique to stimulate group creative thinking.

During this session you will experience a facilitated group working process that can be used with students or colleagues to encourage creative idea generation and idea evaluation. This is the practical technique you will learn from the day.

Session 3 – 13.30-14.45 Fred Buining

Designing an experience in your own teaching and learning context to promote students' creativity.

During this session you will be encouraged to think about your own teaching and learning situation and to identify a space where you could create an experience that encourage students to use their creativity and to reflect on what it meant to them. The experience you design will be shared through a poster.

Session 4 – 15.00-16.00 Fred Buining

Creative Designs mini poster presentations

Creative Interventions
NTFS Project Case Study

design thinking helps us create better solutions for the problems that emerge from a complex world

http://surreycreativeacademy.pbwiki.com

SCEPTrE
Surrey Centre for Excellence in Professional Training and Education