These notes were originally prepared for the imaginative curriculum project in 2002

Notes on a creative curriculum

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Creativity as a policy goal for European higher education

In a presentation summarising the OECD International Futures Programme, Schieb (2002) said:

> Two broad goals for policy [are]
> - Foster dynamism and creativity
> - Enhance capacities for learning (p. 16)

Technological creativity is necessary but so too is social creativity, the ability to imagine novel solutions to; the problems of population stagnation (the EU's population is projected to decline from 135 million in 1998 to 134 million in 2010); globalisation *and* differentiation; competition for highly-skilled workers; an ageing demographic profile.

What is creativity (1)?

For the moment I want to suggest that

- Creativity constructs new tools and new outcomes — new embodiments of knowledge
- It constructs new relationships, rules, communities of practice and connections — new social practices.

To be creative does not mean constructing new embodiments *and* new social practices. One will suffice. Notice that this definition is not product-centred.

Notice too that if we can learn to be creative, which Gardner, (Ref) for one, believes we can, then this is complex learning, in the sense that it is not about learning something determinate, like memorising information or learning to use algorithmic solution strategies. Amongst the things we know about complex learning, two stand out: first, it takes time, sometimes years; second, we can create the conditions under which this learning is likely to happen and we can make general predictions about it amongst groups of students. However, we can neither plan for nor measure complex learning in the ways that we treat simple learning, such as using referencing conventions.

What's involved in learning well?

A curriculum to promote complexity should capitalise on appropriate scientific knowledge of learning. De Corte (2000) provides a useful summary, albeit one written with school mathematics in mind. It will quickly become clear that he does not treat mathematics as simple learning, which gives his account face validity. If you want a good alternative, try Ohlsson (1996), although I think it is less extensive.

De Corte (2000: 253) said that developing expertise in a domain,

> Involves the mastery of four categories of aptitudes, namely:
>
> - A well organised and flexibly accessible domain-specific knowledge base;
> - Heuristic strategies for problem analysis and transformation;
> - Metacognitive knowledge and self-regulating skills;
> - Positive beliefs, attitudes and emotions related to mathematics.

This resembles the Skills *plus* project view that a good curriculum promotes understanding, fosters skills (or strategies), attends to metacognition and to efficacy beliefs and self-theories in general (http://www.open.ac.uk/vqportal/Skills-Plus/home.htm).

What would a creative curriculum look like?

In this section I am going to keep looking at things from the students' perspective, although I am laying the ground for looking at the teachers' point of view as well.

1. I assume that the curriculum embodies De Corte's recommendations or those of equal or greater scientific merit. In this way I am associating creativity with learning well.
2. I add a point De Corte emphasises in his earlier work (as do other experts), namely that the curriculum needs to be designed to encourage transfer of learning from one situation to another (De Corte, 1996). There are two points here. The first is that transfer is important for creativity (Gardner, 19xx) — creative geniuses have been able to bring enormous depth of understanding to bear, often in novel ways, on old problems. The second is that transfer seems to go against the grain — it is hard-won and has to be taught and practised before the habit of transfer begins to become established. If it is not a curriculum priority, it will be developed by happenstance.

Put these two points together and you get a strong case for thinking that a creative curriculum will be co-terminous with a programme. Modules are too short.

3. In such ways a creative curriculum helps students to create tools with creative potential. I am treating understandings, strategies and metacognition as tools.
4. Learners need to realise that they are developing tools and teachers need to help them do so.
5. A creative curriculum needs to contain spaces for reflection. There are a number of ways of reaching this conclusion. A quotation from a paper by Alheit does it quite nicely:

   > *Spaces* for reflection and communication, as well as interactions with 'spaces of opportunity' are at least as important as developing 'instruments for individual self-management' (2002: 19)

6. Communities of practice that have a commitment to encouraging individuals to construct understandings that are new to them. Reflection may have a solitary face but it is enhanced by conversation (Eraut, 1995??). In the same way novel thinking can be stimulated by working with others, which is all the more likely when a community, workgroup or activity system repeatedly shows that it values interesting, fresh thinking and doing.
7. The curriculum also needs to contain spaces for people, both staff and students to do things that are chosen by them and new to them. In addition to spaces for reflection the creative curriculum needs opportunities for other creative constructions.

What are conditions are necessary for a creative curriculum?

1. A programme-long approach
2. Progression (arrangements that help students become comfortable with 'tools', get them to use tools with less and less help and guidance, and end with them identifying for themselves situations which can be handled well by the use of a combination of the tools they have to hand).
3. Openness to choice. There may be limited choice *between* modules, but there can be a lot of choice *within* modules if they are designed on a core-and-application basis. (Teachers introduce the key tools — concepts, strategies, information sources — and then have students practise them on problems that they, the students, choose/identify).
4. Novel tasks. Where students are set fresh tasks that require them to draw from their learning in several modules and when these are not convergent tasks but ones that allow a variety of good responses, then creativity is favoured. Teachers might find themselves considering the plausibility of the solutions and then awarding marks on the basis of students' accounts of their problem-working strategies. (NB. It is not a good idea to join the phrase 'problem-solving' with 'creativity'. The one is convergent, the other isn't.)
5. Differentiated assessment. Narrow, summatively-driven assessment practices will smother creativity.

6. An emphasis on learning for understanding rather than learning for extensive content mastery. There is evidence that an emphasis on coverage encourages superficiality. Superficiality is not conducive to creativity. Understanding, which comes from covering less ground with more emphasis on the underlying concepts, strategies and assumptions, is conducive to creativity. Put it another way: cover less material but in ways that help students to understand more about the domain and its complex learning outcomes.
7. Knowing students. If students understand the 'rules of the game' and why the programme is as it is, then they are better placed to reflect and enter into the spirit of the creativity game. Students who do not know the rules are likely to try much harder to bargain it into familiar and safe shapes (Doyle, 1983).
8. Portfolios. Owned by the student and central to metacognition, they encourage learners to sustain their own claims to achievement — convergent and divergent — in their own ways.
9. Openness to innovation. Possibilities for change need to be designed into the programme from the beginning.
10. Sound evaluations. It has been implied that programmes that favour creativity are rigorous ones. Good programme evaluation practices, ones that go far beyond the standard module tick-list approaches, support rigorous academic practices.

What is creativity (2)?

Implicit in these suggestions is a view of creativity as a habit of thinking freshly within a domain. In a well-designed programme this habit may be developed so that it appears outside as well as inside the domain.

It is a view that emphasises:

- Understanding and mastery within a domain
- Divergent thinking
- Transfer of learning within and sometimes outwith the domain
- Constrained choice: the constraint is necessary if students are to develop the complex achievements that go with subject mastery and with employability, which is a EU priority; the choice is necessary to sustain divergence and to give a motivational fillip.
- Social practice. The lone artist view of creativity may have some romantic appeal but here creativity is more associated with good networks in groups which value fresh thinking. Fresh relationships and social processes may evoke creative products.
- Any programme can be vivified to make it more favourable to creativity.

Tensions or dilemmas

This is not a zero sum game in which a programme either is or is not creative. The suggestion is that a programme is more likely to be creative when the following dilemmas are resolved in ways that tend to the left of figure 1.

However, even in plainly creative programmes, the working solutions to some dilemmas will tend to the right, not to the left and others will sit in the centre. For example, a programme may have prescribed goals and means but be devoted to developing understanding and good networks while giving learners a great deal of choice within required modules.

The ticks in figure 1 show my judgement of one fairly-creative programme which I know.

Tending to favour novelty					**Tending to favour reproduction**
1. The learning environment favours the development of a sense of place — of the creation of a community of learning and teaching practice.		√			Students pass through an educational topography but they are more like tourists than parts of the places they visit.
2. Students repeatedly brought face-to-face with the rules of this game — they become 'knowing students'	√				Students apply the rules of academic games in which they have succeeded in the past to their first cycle studies
3. Teachers see the first cycle as an introduction to what it is like to think and be like a member of the disciplinary community — like a historian, engineer etc.			√		Teacher specialisation and stratification underpins an 'egg box' curriculum.
4. Curriculum is research-led in the sense that it asks students to think and act like researchers in the domain (Kenny, 1998)	√				Curriculum is teaching-led.
5. Teachers' working assumptions about learning resemble the malleable assumptions of practical and emotional intelligences: creativity can be developed		√			Teachers' working assumptions about learning resemble the 'you've either got it or you haven't' assumptions of IQ
6. Learning environment design based on complexity theories, which is to say, trusting good learning processes in environments designed to contain plenty of affordances for freshness			√		Curriculum design based on Fordism or Taylorism, which is to say predefinition of outcomes and arrangement of learning processes to sweep learners to those outcomes
7. Focus on processes of learning			√		Performativity and measurement of prescribed outcomes
8. A system that invests in supporting	√				A batch-processing system with an emphasis

individuals, albeit often as members of small groups.					on efficient throughput
9. Negotiation of goals and means (Independent Studies, Lancaster University, UK)			√		Prescribed goals and limited choice of means
10. Individualised learning — students have a great deal of choice between modules				√	A common curriculum — students follow more or less the same set of modules.
11. Choice within modules			√		Little choice within modules. Possibly much choice between modules
12. Spaces for metacognition — for reflection, portfolios and conversations		√			Emphasis on content coverage
13. Assessment is for learning		√			Practices that concentrate on the measurement of learning

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