

What Is 'Innovation' ... and, what *isn't*?

The discussion about 'innovation' in K-12 education is now coming on rapidly, as the sense grows that K-12 requires radical change. But -- **as is usual early in any discussion -- there is unclarity about concepts, terms.** Partly, this is because we are all still learning; thinking about the idea and how it applies.

This brief paper will try to distinguish the various meanings of 'innovation'. It does turn out to look like a spectrum: innovations at different scale. Multiple dimensions to the concept. There is no fixed 'right' answer. But the exercise helps us understand.

General Definition

Something new. But to say this of course does not take us very far. Often 'innovation' is used to mean any change no matter how small.

Sometimes it's used to mean something just new *here*. Not truly new or different; just appears where it had not been before. Probably this *is* a kind of innovation, from the perspective of what's in (or, not-in) a school or district today.

Sometimes 'innovation' means an organized effort to spread something developed before. That seems to be what the U.S. Department currently has in mind. This is useful, but -- again -- doing-more of some good thing is not really innovation, since the model doesn't change: Best thought of as the strategy of 'scaling up'. Call it what it really is: **replication.**

Clearly we want a definition that goes beyond this. **There needs to be room in our concept for 'invention'; for the truly different:** Per the dictionary: "A new idea, device or method; something invented; produced for the first time; not known before".

What Clayton Christensen calls 'disruptive' innovation does things not done before.; is disruptive, in his terms, because existing producers can respond effectively only by attacking their own existing products or business-models.

This *totally/radically*-new is impressive compared with the 'nothing' before, but does not appear to be 'quality' when measured by the standards applied to existing products. Sony's Walkman radio was not a quality radio by the standard of its time: It was cheap plastic rather than nice walnut cabinetry and it had crummy

sound. **It had to be evaluated on a different standard: It was *portable***, which the big RCA in the living room wasn't. Think also about the first airplane; the first bicycle, the first computer, the first cellphone (big as a brick). These 'real innovations' need sustaining innovations to improve them.

Ideally, progress oscillates between disruptive innovation and incremental improvement -- the 'Excellence Movement'.

Innovation . . .at what scale?

Immediately hit the question of scale. There are small 'incremental' innovations that make small changes and improvements to a something-known. Christensen calls these 'sustaining' innovations. These associated with Deming; steadily making something better, less costly. Some can be quite small-scale, not very significant. Some can make quite significant improvements to a known-thing.

Innovation . . . with respect to what?

There can be innovative with respect to products, or equipment, or processes.

The assembly line was an innovation in the process of manufacturing automobiles. This clear if we think about "Labor, Capital and Technology" where 'technology' is the way labor and capital are combined.

There can be **institutional innovation**; new and different -- even radically different -- arrangements. 'The corporation' was at one time an institutional innovation.

How to stimulate innovation

There seem to be two very different concepts in the current discussion about promoting innovation.

One asks: "What is your innovation?" So, for example, a district or a state will say to school or teachers: You may bring a proposal in for approval. The state or district then gives permission -- or not. Basically the notion is that innovation is something you do.

The other sees innovation as something that happens. Here the idea is to create an 'ecology for innovation' and a 'culture of innovation'. Innovation is people-trying-things. Here, probably, enters the notion of entrepreneurs.

There need to be arrangements that support innovation and that encourage innovations, inventions, to spread. William Wulf (see the NYTimes article about Wulf and his effort with American manufacturing) talks about improving **the 'ecology' for innovation.** This has mainly to do with the legal, institutional arrangements (in the case of manufacturing, patent law, venture-capital financing, university education, etc.). So this gets us back to the need for *institutional* innovation.

The 'culture' of innovation has more to do with how far risk-taking is encouraged; how far failure is tolerated. Some say this country generally has a better culture of innovation than others. Some organizations have more of an innovation culture than others. Some serious exists about this, where innovation comes to be financed by government; by a political sector excessively sensitive about 'failure'.

Innovation and Education

The need to be open, for new models to appear and to spread, makes innovation a challenge for K-12.

Traditionally K-12 was not open for trying-things. It was a closed system, dominated (per Tyack) by the notion of a "one best way". It was possible to create a new kind of school, but it had to be a private school. Thus protected, public K-12 had little incentive to innovate. Historically K-12 has been risk-averse.

But gradually K-12 has been opening; unbundling. It has become more receptive to innovation.

Most of the talk about innovation is aimed at improving learning. But **innovation can also be aimed at the economics of K-12; at making it sustainable financially.** Little of the current discussion worries about sustainability. But it is a real, a coming, problem. Education | Evolving -- today almost alone -- urges discussion about sustainability.

Institutional innovation: chartering

Beginning in the 1980s there was a wave of 'institutional innovation'. Changes in 'the rules of the game'. First inter-district open enrollment. In the 1990s, chartering. This took away the 'exclusive franchise'; created pressure for change; created the

opportunity for change. This was a kind of innovation, compared to the conventional 'school district'.

Chartering was a change in, is now a part of, the ecology of K-12; providing a framework open to entrepreneurs, and to new schools and new kinds of schools. At the school level there next needs to develop a culture that encourages trying-things; supports risk-taking. (Cf David Kelley to New Schools Venture Fund 'Summit'.) You won't know ahead of time what it is the school or teachers will try, or how well it will work.

The chartered sector quickly became a platform for new kinds of producers; operators of schools. Entrepreneurs; commercial and non-profit.

School-level innovation

Some of the new schools were innovative *as schools*. Many were not, but some were.

Some of the school-level innovations changed the processes of learning. **In these truly innovative schools the old technology of teacher-instruction began to be replaced by a new system of 'supported-self-help', in which the student was increasingly seen as the worker.** Along with this change came an increase in 'capital'. Computers, software, the internet, the Web -- used by students to supplement or to replace pencils and notebooks.

In the school there were also innovations in the roles of teachers/students, teachers and administrators. Changes in the use of time. Innovation can aim at improving the job/career for teachers: **It was an innovation to apply the professional-partnership model to a school.**

Key Questions re: innovation in education

One has to do with disagreement: People hold (often intensely) quite different views about what school should be; what learning should be. The answer to this is two-fold: (a) run a policy that tolerates differences; leaving those who believe in traditional models free to stay with the traditional on the understanding they will not suppress the 'different' for those who do prefer that. And (b) choice, for students and families.

There is a related concern about 'risk'. Partly this should be handled with the same response: that It is not being imposed on anyone. **But there is also the concern that what's tried might not work, or work well.** To this there are several useful

responses: (a) Given the existing level of failure the larger risk is not to try things; (b) The innovation might work; and very well, too, especially if it is a sustaining innovation to an existing model; (c) Some level of failure is necessary and is therefore tolerable in order to realize the productivity gains that come from successful 'disruptive' innovations.

We do need to be realistic that in education as in other fields, the disruptive innovations -- because they do something not done before -- will not meet the traditional definition of 'quality'. Think about the first airplane; the first computer.

How to 'scale up'. The impulse is always to identify 'what works' and to tell everyone to replicate *that*. To "Bottle it!", as John Goodlad put it. The other strategy, as Goodlad said, is to **replicate the conditions that let a school to become a good school**. This would mean expanding the ecology for innovation; the culture of innovation; the incentives -- reasons + opportunities -- for people to try things.

It would be highly strategic, similarly, to stimulate innovation by scaling up the use of the teacher-partnership innovation, giving those in control of the school the opportunity to bring in new different approaches to learning that will make the school (for which they are responsible/accountable) more successful and their own work easier.

Minnesota's 2009 legislation is an example; extending now to the district sector an opportunity to create new schools with the autonomy to innovate with forms of organization and approaches to learning, and the opportunity for the teachers to use the partnership model if they wish.