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Presentation for NSF, April 8th, 2010

1. General aims of education listed in curriculum guides.
2. What teachers say about the general aims.
3. Aims of education and social engineering.
4. Chocolate cakes and school traditions.

The Icelandic *National Curriculum Guide for Secondary Schools* has a section on general aims. There it says among other things that the schools' role is to:

- ✓ Encourage the overall development of students in order to prepare them for active participation in a democratic society.
- ✓ Prepare students for employment and further study.
- ✓ Cultivate responsibility, broad-mindedness, initiative, self-confidence and tolerance in students.
- ✓ Train students in disciplined, independent working practices and critical thinking.

The Dutch curriculum theorist Jan van den Akker has drawn up the following typology of curriculum representations

INTENDED	Ideal	Vision (rationale or basic philosophy underlying a curriculum)
	Formal/Written	Intentions as specified in curriculum documents and/or materials
IMPLEMENTED	Perceived	Curriculum as interpreted by its users (especially teachers)
	Operational	Actual process of teaching and learning (also: curriculum-in-action)
ATTAINED	Experiential	Learning experiences as perceived by learners
	Learned	Resulting learning outcomes of learners

The general aims belong to the intended curriculum. What teachers teach is the implemented curriculum.

van den Akker describes the relationship between the layers as problematic and says that problems manifest themselves in spectacular and persistent gaps between the intended curriculum and the implemented curriculum.

Many other experts on curriculum theory take an equally dim view. John White has concluded that it is questionable whether the subjects taught have anything at all to do with the general aims.

White and van den Akker both think that the intended curriculum can, in principle, be implemented.

But what shall we think?

How are general educational aims related to school subjects and subject specific aims, like that students learn to prove the Pythagorean theorem, or realize (to some extent) what difference the French revolution made?

One possibility is that they are related as aims within a game and aims of a game – or internal and external aims.

Changing the external aim has no effect on what the player should do while playing the game – given that the aim be reached by winning rather than losing.

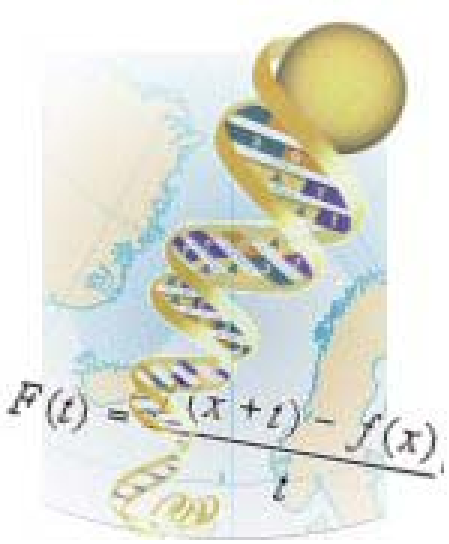
Four possible ways to serve the general aims of education:

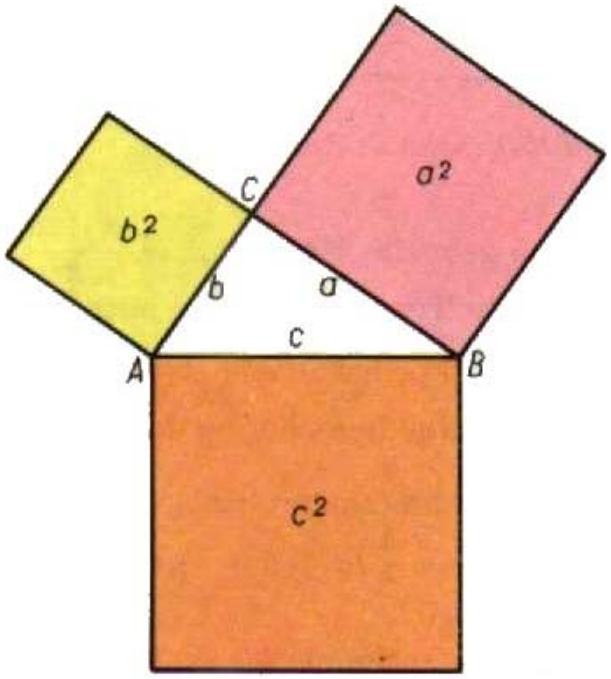
1. Nothing needs to be done but teach traditional school subjects.
2. Nothing needs to be done but teach traditional school subjects, provided they are taught in a way that promotes or respects these aims.
3. Traditional school subjects can only take us part of the way, but new subjects have to be added.
4. Traditional school subjects must yield and the curriculum has to be designed anew.

My interview subjects opt for the first two possibilities and exclude the last one?

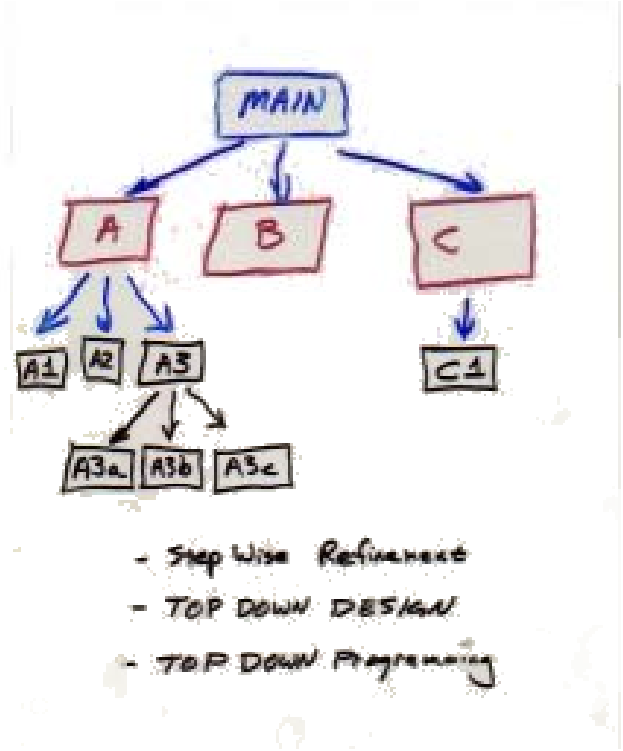
Why do teachers exclude the fourth option?

Are they just defending their turf or is their conservatism supported by sound reason?





John White has said that school improvement schemes should start with ensuring that the aims which "are to power everything else" are soundly based.

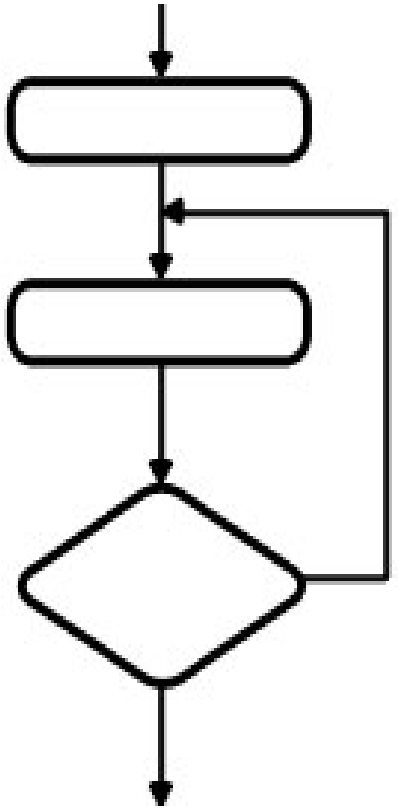


Then the next stage is "to see what follows from these aims about sub-aims which are their necessary conditions."

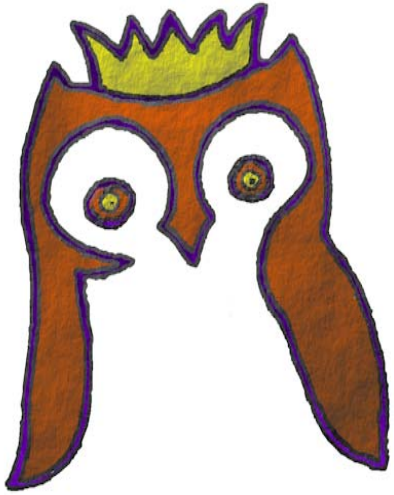
After the sub-aims have been identified experts in various fields are called on to figure out the details of implement-ation.

How realistic is this?

Can curricula, or systems of education, be programmed top-down or designed by deriving the details from general aims like those listed in the Icelandic and English National Curriculum Guides?



In a book published in 1995, *Tinkering toward Utopia - A Century of Public School Reform*, authors David Tyack and Larry Cuban argue that the history of school reform in the 20th century makes it doubtful that technocratic and top-down approaches to school improvement can ever work as intended.



The reason Tyack and Cuban give for this is that "innovations never enter educational institutions with the previous slate wiped clean"

"Wie Schiffer sind wir, die ihr Schiff auf offener See umbauen müssen, ohne es jemals in einem Dock zerlegen und aus besten Bestandteilen neu errichten zu können."

Otto Neurath (1882–1945)

Is the reason why schools prove so recalcitrant only that we can never begin with the previous slate wiped clean (or with our ship in dry-dock)? Is that it, or is there something more profound behind all this?

Those who think school curricula should be designed anew by deriving the details from general aims must assume that the aims can be specified independently of the means, i.e. that we can know what we want before we've got it.

Some things cannot be designed in this way. Suppose for instance we had no language. Could we plan a solution to our communication problems by stating our aim and the best methods to reach it?

Aim: To communicate all possible thoughts.

Sub-aims: Design grammar rules and make words for everything there is.

Implementation: Memorize the rules and the words.

Is a curriculum (or an education), like a language, something we must already have in the fullest sense before we can even begin to describe it? Or is it more like a bridge that we can design before we set out to build it? Is it maybe something in between, like say a chocolate cake?

Can a chocolate cake be designed?

In one sense a cake can be designed. We can make new recipes.

But in another sense the task is clearly impossible because if we lived in a world without agriculture and commerce and culinary traditions it would be about as impossible for us to conceive of a chocolate cake as it is for a race without language to think of grammar rules.

Before the advent of fairly sophisticated agriculture a top-down design like this was not an option:

Aim: Chocolate cake.

Sub-aims: Find out how to grow wheat, cacao and plants that yield vegetable oil; How to domesticate fowl and milking cows; How to produce sodium to make the dough rise etc. etc.

Implementation: Run the requisite farms, factories etc. etc.

A cake can only be conceived of inside a world of agricultural traditions that cannot possibly have been designed as aims subordinate to the aim of making a cake.

Does thinking about chocolate cakes help us understand the persistence of subjects based curricula?

Does this example reveal sound reasons behind the answers teachers give when asked how they work towards general aims?

Are subjects like mathematics, natural sciences and history analogous to farming and cooking?

Do they lend content to educational aims in the way traditions, big as life, make cake recipes meaningful?

A liberal education is usually taken to mean […] an education that cultivates and disciplines the mind and is to be pursued as an end in itself; […] It is generally associated with the classical humanist as opposed to the progressive ('child-centred') or technical-vocational traditions in education, and with a curriculum of subject disciplines in which a body of knowledge is transmitted to the pupil.

(Alister Miller)

One of the deep reasons why we can't throw away the traditions we have and derive a new curriculum from general aims is that most sensible aims are rooted in these very traditions.

So called aims of education are abstractions that are thoughtlessly presented as prescriptions.

They may be sensible if they are read as attempts to say in a few words what schools are good for.

But to interpret them as formulae or recipes that can be used to generate a whole curriculum is like trying to derive the world of agriculture and the art of cooking from a chocolate cake recipe.