

New
thinking
- Schools



Experiences from Denmark
40 years with digital life in Schools

Who am I?

- Teacher and Engineer
- Technology Integrator and interpreter
- Still exploring how Technology can makes sense in Education.
- Director at Leba Innovation & Investor at NCT

My background

The early years 1979-2001 – against all odds

- Teacher Math, Science, Computer science, chemistry, graduated 1979
- 12 years as a teacher mainly K12
- Since 1980 working with IT integrating for Commodore.
- Developer of educational software and programs for Commodore
- Computers and robotics in school – the Turtle and Lego.
- Leading Comm. National Library of educational software

**My first
personal
computer
back in 1979**

8 Kb memory – no storage.
External diskdrive



The story Begins:

First School computer setup 1980

3 x Commodore PET, one double Floppy disk drive and later one printer.

CHARGE IT, STORE IT, MANAGE IT

Total 1980 value > 20.000 Euro



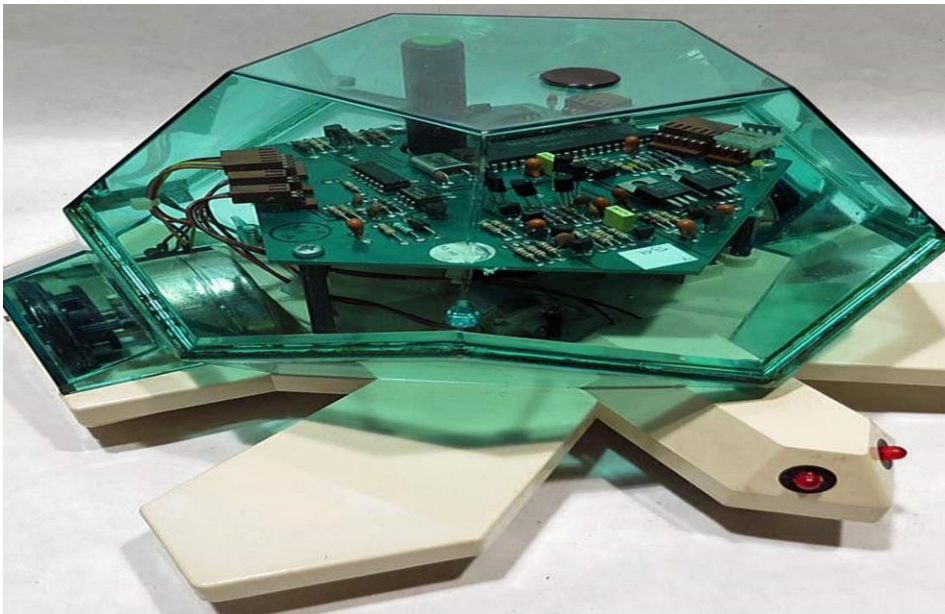
2 x 512KB floppy disks . 13 KG,



My first portable

An Attraktion wherever I turned up with it, and my Valiant Turtle, teaching computer Sciences and Robotics

CHARGE IT, STORE IT, MANAGE IT

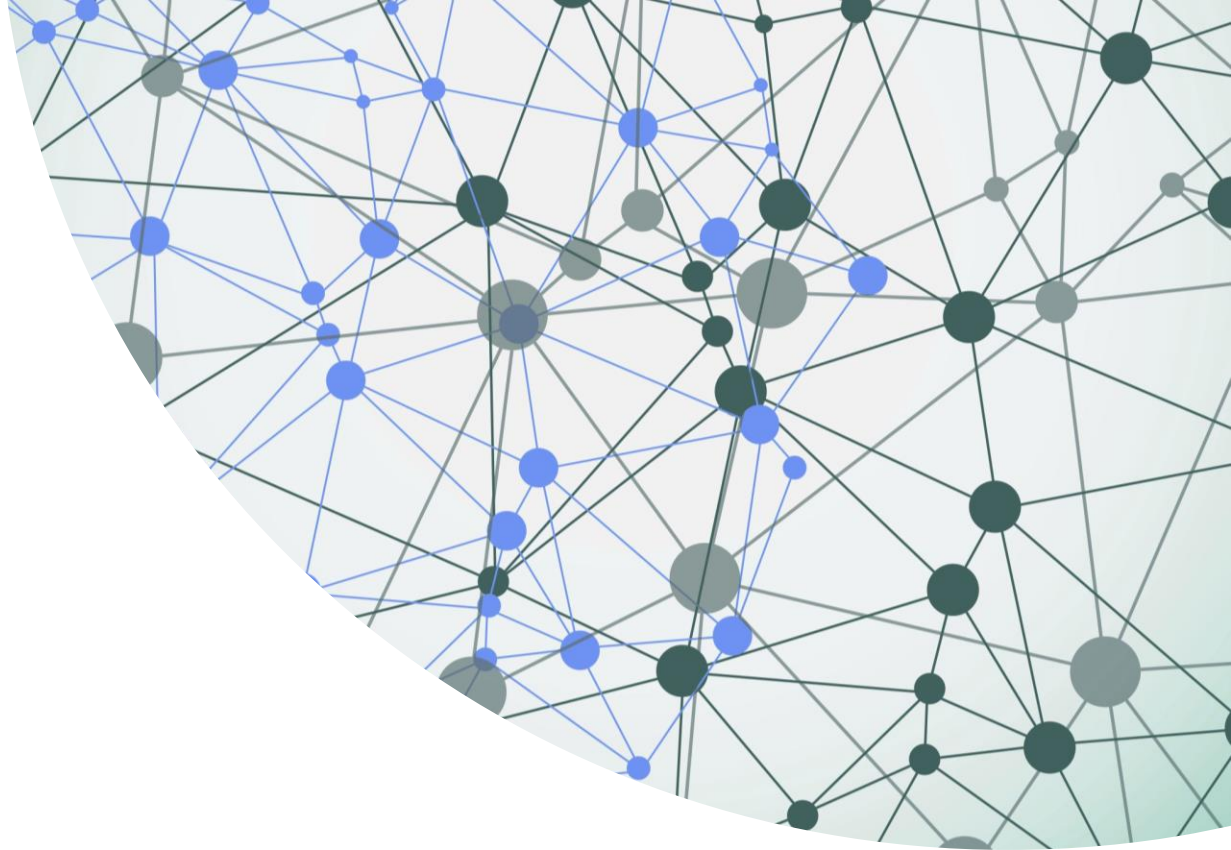




It in education matures 2000-

From difficult to use technology driven by nerds to becoming useful tools – GUI's, mobile and wireless

- 2001: Project lead IBM bringing laptops and WIFI into 75 schools.
- IT Project lead at Danish Government Development school
- Adviser for Danish schools
- IT trainer for mainly teacher. Helping bringin IT into Education. Trying to prevent that they do the opposite.
- Founder of Iteo.
- Invented “The Free Learning space” – Makerspaces like setup
- Infrastructure and WIFI architect, schools, healthcare
- Developing a range of device storage solutions – Leba Innovation
- Founder, investor and first draft designer of cloud-based system supporting most needs in schools from the cloud. Currently 500.000 users. Nordic Cloud Technologies
- Following the Digitalization process in many countries
- Network all over Europe



Why are we developing
school like we do in
Denmark?

**LET'S
TALK
ABOUT
SCHOOL**

**SCHOOL – What is it good for?
How to crack this one?**

CHARGE IT, STORE IT, MANAGE IT



Passing it on to next generation – that's what school is about?

Preparing next generation for not only living and coping in the society, but developing it, driving it forward.

That's school and that's the very basic for democracy,

Do we do that well??

We are still using the same concept as when schools were invented around year 1800



Can we really prepare children for life using that old concept?

**Try to think how much society have changed and how little
school has**

This way new technology changes nothing



Same old
concept

We need
to do
much
better
than that

Why digitalize schools ?



**Digitalisation is
NOT
a technological
project.**

**It is a
pedagogical
one.**

**Important
point to get
your priorities
right**



Computers – Tablets – Laptops

Computer can be efficient to pass *knowledge*
Computers brings information at your fingertips
Computers can train simple skills
Computer can simulate
Computers are often motivating – witch is dangerous
Computers must never become education
automatization
Computers sets us free – education everywhere
Computers are valuable in Learnnig Spaces

Do they bring us 21. century competences ??????

NO

Computers in School



School must be a refleksion of the sociaty

Not at cheese bell system that defines itself

Sociaty are digitalized – so must School

The Education vision to think of children as empty bottles that must be filled up with knowledge – are long gone.



What problems do we face in Education?



The challenge we face

ARGE IT, STORE IT, MANAGE IT




Vitus, 6 years old First day in school - 0. grade

- Vitus will spend the next 12 – 18 years in the Education system.
- What do we put in he's backpack to prepare him for the future?
- How will the society look when he graduates?
- In what kind of society will he be spending he's worklife until 2090?

*School must prepare him to crack a „digital nut“
And we do not even know how it looks and works*



How can we do that?

A small, vibrant green plant with several leaves is growing out of a crack in a grey asphalt surface. The background is a blurred, light-colored sky. A semi-transparent white circle is overlaid on the bottom right of the image, containing text.

**Education is the
very base for
Democracy**

**Lack of or bad education is the soil
where dictators grow**

What will be the major driver in the change of our society

It biometrics

Climate considerations

Easy digital access for everyone

Drones

Blockchain

Robots

Fast internet

Internet of things

Artificial intelligence (AI)

Battery technology

Data-centers and cloud

Alternative energy production

Easy access to massive computer power

Statements:

Face recontion in China:

Before 2025 any of the 1,3 Billion Chinese will be identified within 6 seconds

AI will take 50% of all jobs?

65% of all jobs in 2030 does not exist today

Next level social network will influent all jobs?

No jobs without operating computers?

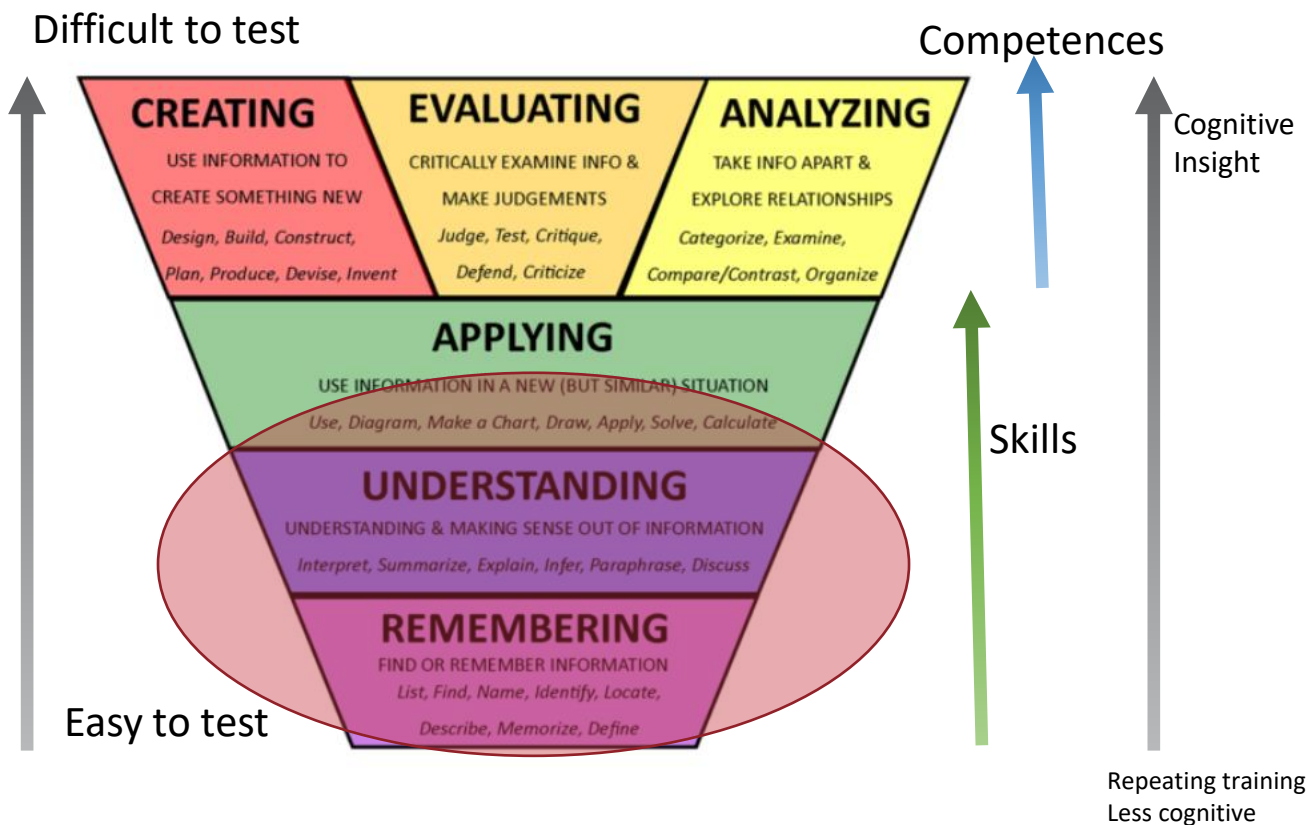
Technology development is an exponential curve?

It is all happening right now?



Taxonomies of Learning

What is your ambition?



High risk for takeover by AI or...

We need to head for competences

Every child must become someone – not something

We need to work more holistic

We must move to project based learning



We all do it differently,
based on culture, politics and
resources



The Asian way – China

Education on steroids

Top of Pisa

Fact learning, Skills

Training, tests and control

Long school days

Lots of homework

Stress

Low in taxonomi

The Scandinavian way

Finland as the most successful



Top of Pisa
Number one inclusion
Shortest schooldays
Longest holidays
No Homework

Become someone - not
something

Focus on:
Read/write, Arithmetic, languages
Competences(high tax), Communications, Collaboration,
Creativity
Responsibility, discipline, reliability, self-motivation
Technology understanding and mastering, programming
Innovation
Empathy
High in Taxonomi

21. Century Competences, - what are they?

An American, A Chinese and a Scandinavian would have quite different answers.

You will find many models and theories – in the end culture, politics and resources will influent how you answer this very Centrale question.

- Read/Write, arithmetic, languages
- Creativity
- Communication
- Cooperation
- Critical thinking, validating of information
- Understanding and mastering technology
- Mastering of digital opportunities
- Code of conduct in the digital world.

Personal qualifications

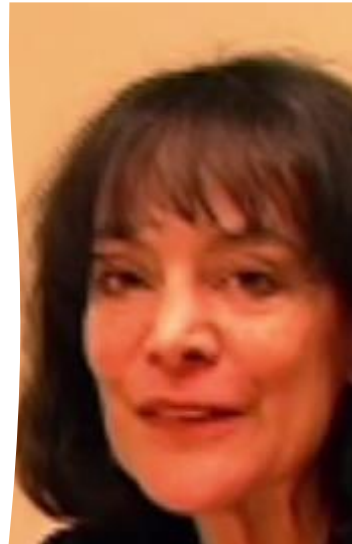
- Self Discipline
- Self motivation
- Responsibility
- Self drive
- Flexible mindset
- Grit
- Innovation
- Empathy

Carol Dweck

Professor at Stanford University

Research documents that:

Mindset is the most important factor for achieving well in school



Angela Lee Duckworth

Professor at University of Pennsylvania

Grit is the most important factor to become high-achiever





Sir Ken Robinson

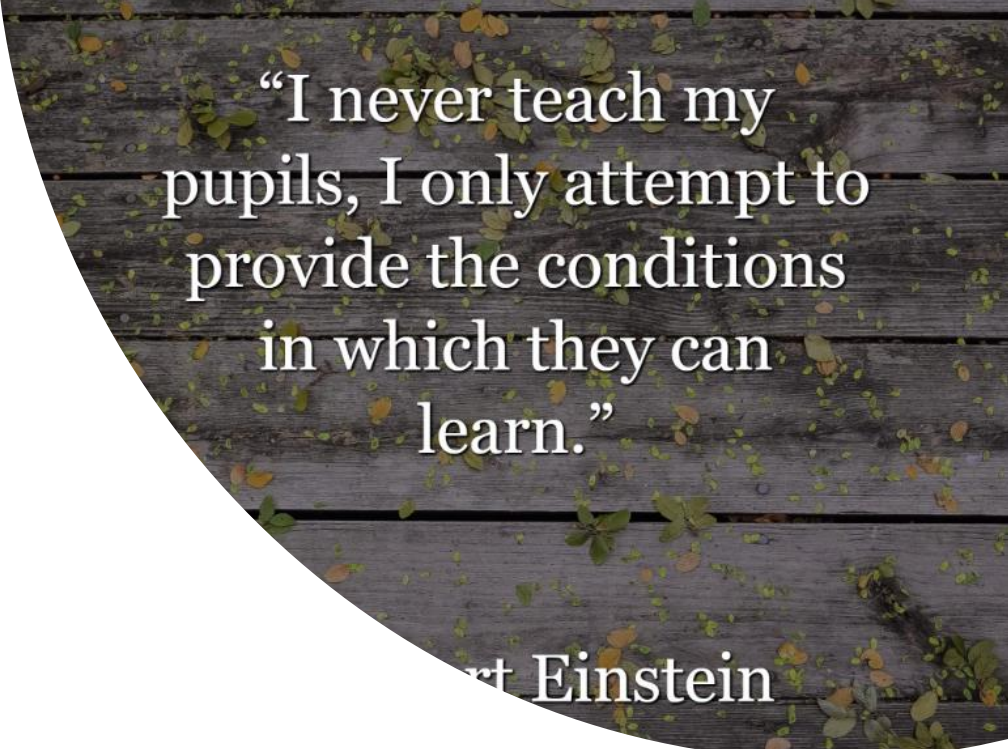
Education Advisor and Author



TORE IT, MANAGE IT

Sir Ken Robinson, PhD, was an internationally recognized leader in the development of creativity, innovation, and human potential. He advised governments, corporations, education systems, and some of the world's leading cultural organizations. Among his many recognitions, he received the Benjamin Franklin Medal of the Royal Society of Arts, the Nelson Mandela Changemaker Award, and a knighthood from Queen Elizabeth II for services to the arts. He wrote several best-selling books, including *New York Times* best seller *The Element*. He died in 2020.

“The role of a teacher is to facilitate learning”



“I never teach my pupils, I only attempt to provide the conditions in which they can learn.”

Albert Einstein

Re-think School

Do not just bring in new technology into the same old framework

Dare to fail

From teaching to learning

From Classroom school to learning environment

From class *teaching* to Project Based *Learning*

Allow different learning profiles

Monoculture

CHARGE IT, STORE IT, MANAGE IT



Diversity



The role of a teacher is to facilitate learning

Important factors to light the spark of learning

Motivation

Enjoy not just endure

Mindset

Flexible mindset – not Fixed

Grit

Go persistently for your goal

Work Holistically

no scattered education chopped up in pieces

Activate students

only use traditional teaching if absolutely necessary

Support students different learning profiles

Gillian – remember , -)

AI – it changes everything

1. You haven't seen anything yet.
2. AI for robots, Lawyers, Doctors
3. Is that what we have been dreaming of?
4. Not just a robot vacuum cleaner but.....
5. Why do we not see this as an opportunity?
6. The role of education is even more important than ever.
7. Changes or adds to our roles
8. Just now the biggest change we have seen since the iPhone

9. AI is not going to replace anyone – but people who uses AI will replace people who don't

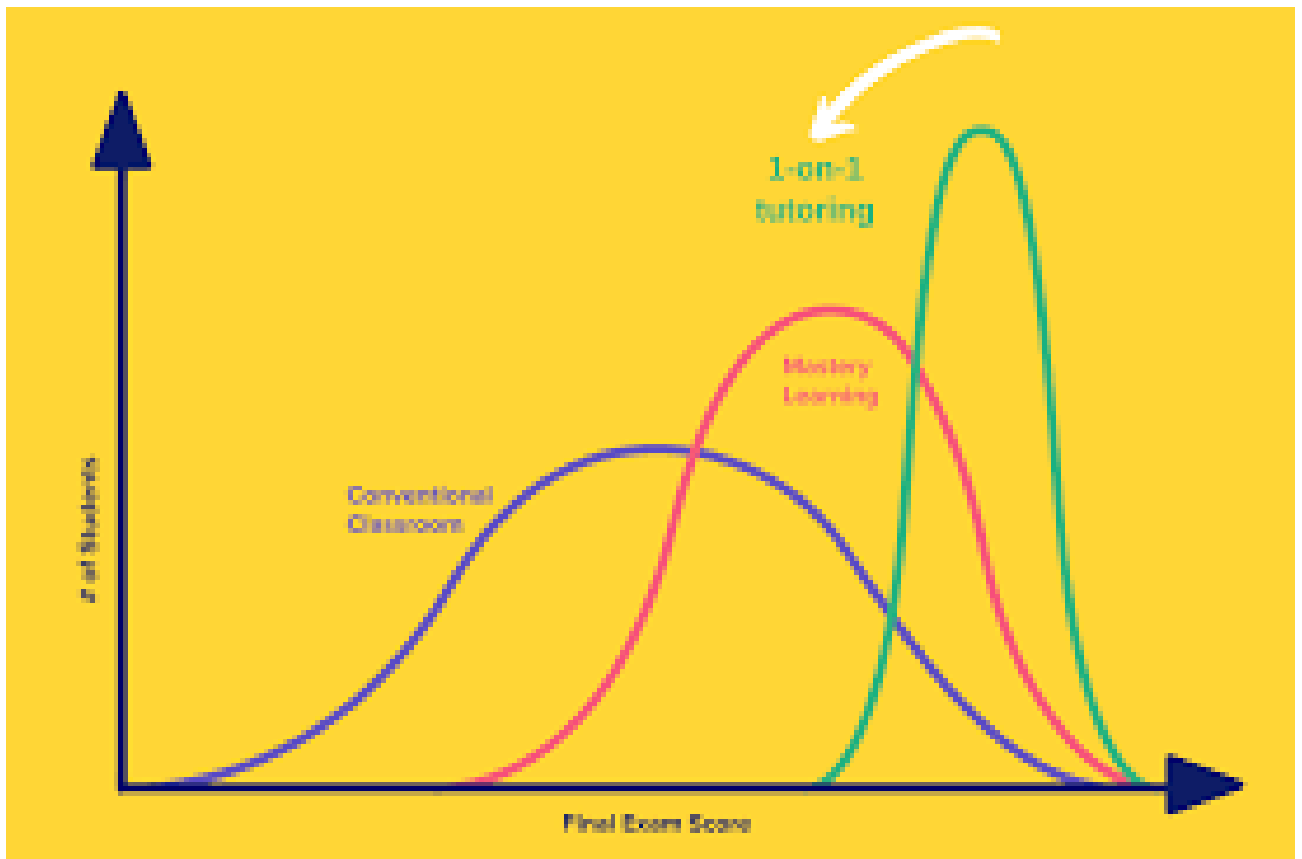
What is it AI can?

Huge amount of computer power combined with access to enormous amount of data



The Holy Grail of Education

Blooms 2 Sigma problem





Kahn
Academy



Für jeden Schüler,
jede Klasse.
Tolle Lernerfolge.

Wir sind eine gemeinnützige Organisation mit der Mission, eine kostenlose, erstklassige Ausbildung für jeden, überall, anzubieten.

Lernende

Lehrer

Eltern

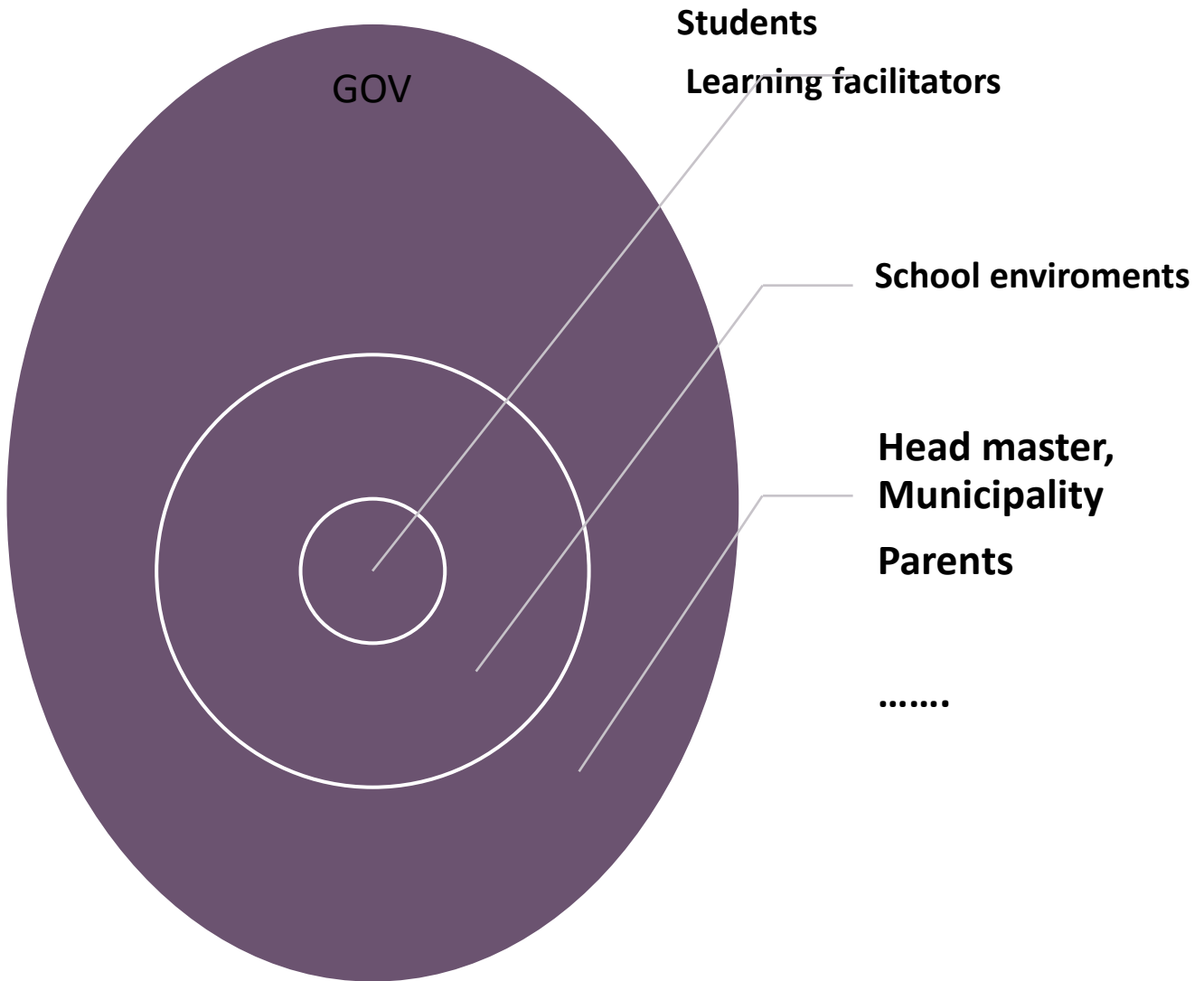
Sal Kahn – Kahn Academy



We need to rethink school
new ways, focus
and new environments.



Rethinking School



***The further away from the core the decisions are made
– the less they will work***

Front runner schools

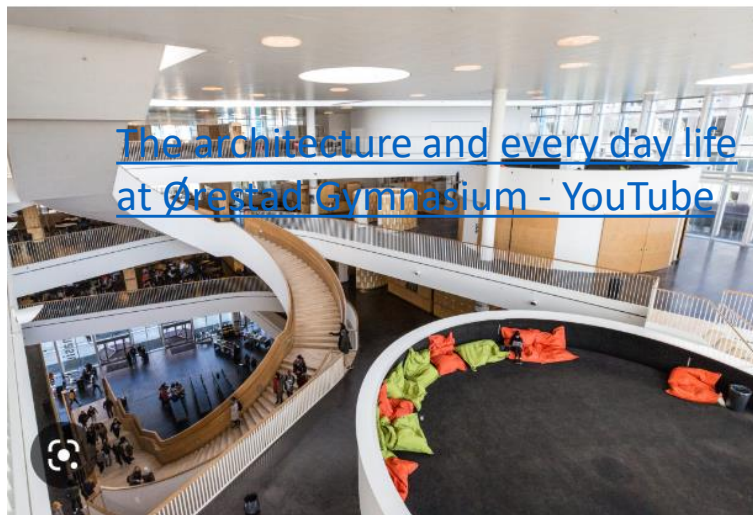
Fokus on Makerspace environments
Some even without classrooms
Base for Project based learning
Aimes on competences and holistic learning

Challenging for both teacher and children



The School without Walls

[School with no walls: Teaching in open learning environments in Denmark \(Learning World: S5E41, 3/3\) - YouTube](#)



Læringshuset

<https://www.youtube.com/watch?v=h1IUEJmRlhg>

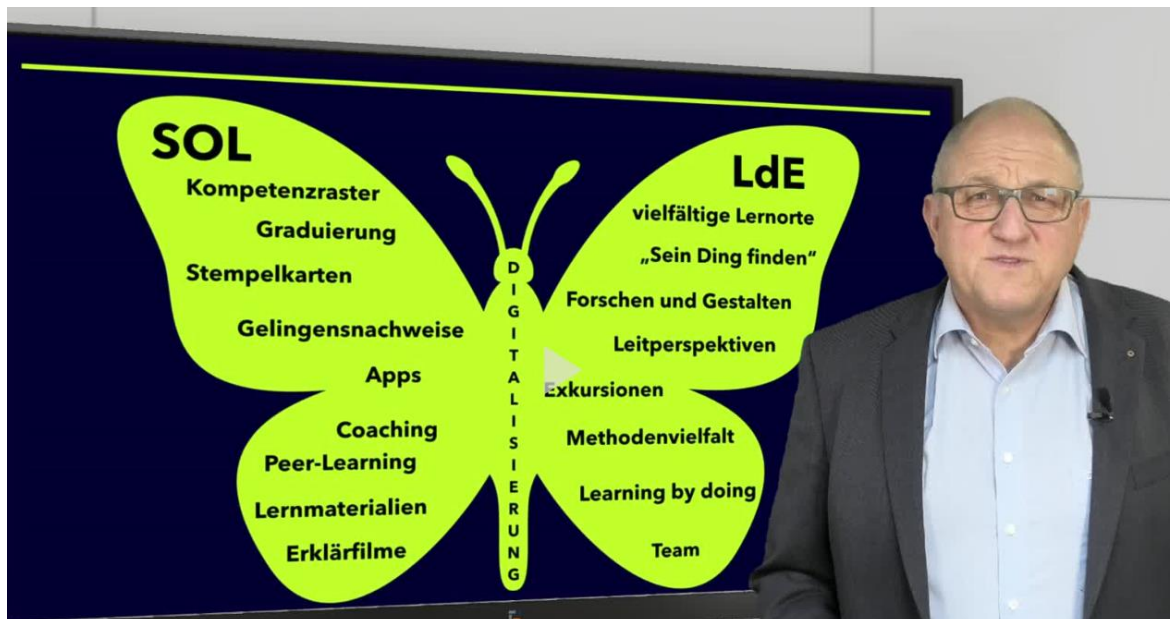
A remark from
a new student

**„This is Disney World
Of Schools“**

Stefan Ruppaner, Schulleiter der Alemannenschule:

“Lehrerausbildung taugt nicht für zeitgemässe Schule”

“Wir halten bei uns sehr wenig Unterricht, weil wir festgestellt haben, dass Unterricht das Lernen behindert.”





Wir müssen von
Schulbereite Kinder
zu
Kinderbereite Schulen



Thank you

45 40722140

lc@leba-innovation.com