

How to to

HACK

the  
EDUCATIONAL

FUTURE

# Learning in the Cognitive Era

\* recorded at the  
ELIG Conference 2017  
28./29. September in  
Aarhus

Awesome

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Diskussion

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Adaptive Learning

The kids

Networking

Tall

Laugh

Open plans

Workshops

New stuff

Learn

And again

Another

Hello

How to enable children to think creatively, experiment and innovate

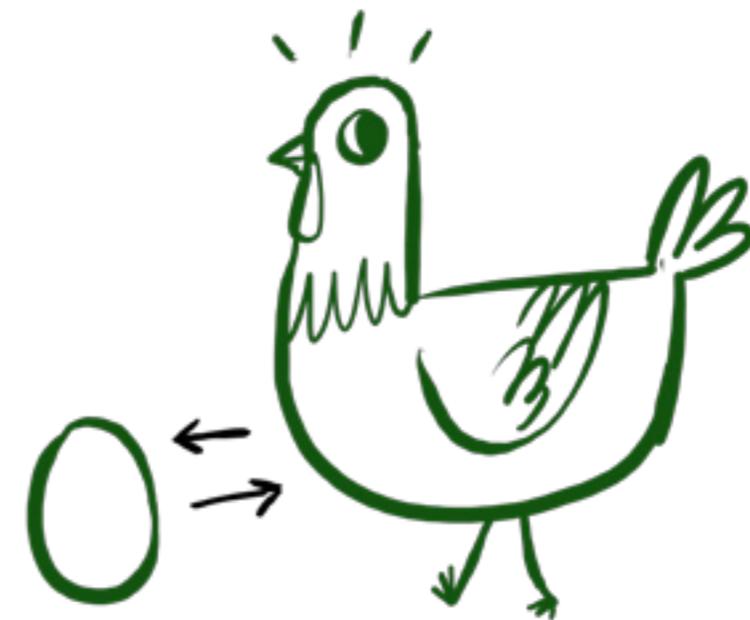


## Encourage play

Playing is natural to children but sometimes regarded as a „non-serious“ activity. However, play is an essential element of the learning process in particular to develop creative skills. Playing is experimental and takes place in a protected environment without judgement and consequences.

## Make creative technology accessible and scalable

Technology is changing the creative process. Accessible creative technologies for young people let children experiment with their creative judgement and understand the process of producing creative results. Actually becoming creative producers themselves. At the same time, this can be done in teams and widely scaled and shared.



## Measure to improve, not to range

It is valuable to better understand the creative process and use indicators. However they should not be used to classify or control creativity. Rather they should be used to make creative technology more responsive and adaptable.

## Rethink our roles. Are we teachers? Facilitators? Co-creators?

Creativity and play demand a high degree of freedom. Constraints need to be removed. Rather than teaching they should be facilitated or an experienced person can join-in as co-creator.

How we bring learning experience into real life



## Be aware that there is no substitution

Making experiences is an essential part of the learning process. And technologies can be used to allow children to make experiences, for examples by experimenting, building and prototyping. Making things is constructive a way to interact with the world. Experiences cannot be fully virtualized.

## Learn in communities and partnerships

Communities and partnerships allow to create together and to leverage the diverse skills of the group. Contributing to communities and acting in partnerships is an essential element of a modern learning experience.



# How to create maker-centered learning experiences



## Create inspiring & flexible learning

The physical learning environment has an essential influence on the creative process. Make it flexible. Make it open and encourage the children to rearrange it according to each new project or learning situation. The environment should inspire and not constrain.

## Use hands-on learning & open questions

Open questions or challenges allow for creative solutions. They call for experiments rather than a single “right way”. Making iterations and mistakes should not only be allowed but also considered a normal part of the process. Open questions should be taken up by a group of peers with complementary skills.

How to personalize the learning experience while focusing on the group & community



## Abolish a standardized education vision for experience

Personalization means on the one hand to take the individual needs, qualities and previous experiences of a learner into account. But it also means a personal, caring and responsible human relation. The aim of technologies like AI should not be to replace this.

Rather they should help to improve it for the humans involved.



## Engage even more teachers

Personalization should not be seen as means to reduce the human engagement. A future education will even involve more teachers. But the roles and what they can concentrate on will change.

## We need to learn to work as communities

Working in communities is different from working in a group. Communities are larger, more widely distributed, with people at different locations and also different levels of contribution over a longer time. Working in communities is new in a digital society. And learning should start early. Communities should also provide a sense of belonging.



How to develop a humanised version of learning with digital technology



## Make technology accessible

Barriers of accessibility need to be removed or lowered as much as possible. Many technologies are still difficult to use or demand expert knowledge, in particular when used for making or in creative projects rather than only for consuming. Technologies used in education should also support inclusion and be open and transparent - for example about the data they use.

## Don't aim to replace human interaction

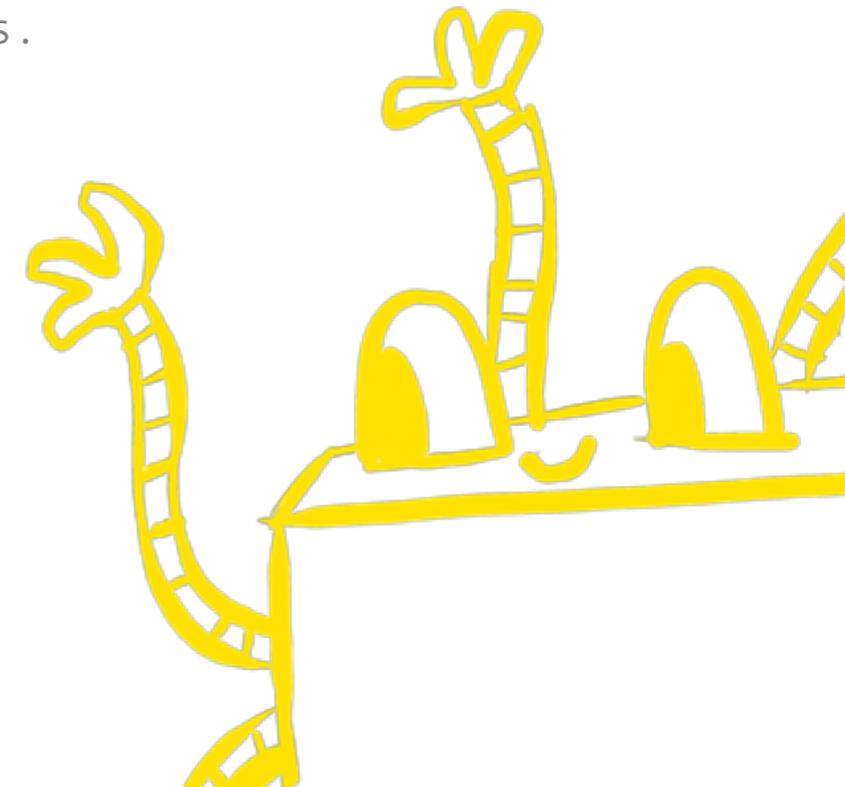
It should not be the aim of learning with digital technologies to replace human interaction. Rather it should augment human interaction or make new human interaction possible - for example across existing geographical or other boundaries.

## Don't regard language as a barrier

Personalization means on the one hand to take the individual needs, qualities and previous experiences of a learner into account. But it also means a personal, caring and responsible human relation. The aim of technologies like AI should not be to replace this. Rather they should help to improve it for the humans involved.

## Enable children to judge for themselves between good and bad in a digital world

Education in a digital society should be guided by the vision of active digital citizens, competent to understand how digital technologies are changing our world and capable to differentiate between negative effects and positive ones.





\* all results by the participants of the workshop, with pleasure and fun moderated by Charlotte Sundåker, visually kept in pictures by Martti Raevaara and Elmar Husmann (also text) and put in a book by Maria Karipidou (also illustrations)



