

# Het e-learning landschap



Hogeschool van Amsterdam  
27 augustus 2018

# In vogelvlucht

- Korte introductie
- Wat betekent e-learning voor ons?
- Een greep uit trends en ontwikkelingen
- Tools en tips
- Vragen?



# CORVER

LEARNING & INNOVATION



**Natasja  
Corver**

## Achtergrond

Ik in drie woorden:

Delen

Multidisciplinair

Experimenteren

## Favoriete onderwerpen

Innovatie

(e-)learning

Onderwijs



**25+**

Ik werk 25+ jaar in  
educatieve wereld.



**2**

2 zonen van 22 en  
24 jaar



**6**

Ik ontwikkelde  
educatieve games  
voor 0-4 jaar

# Wat betekent e-learning voor jullie?



Go to [www.menti.com](http://www.menti.com) and use the code 26 20 53

Mentimeter

# Wat betekent e-learning voor jullie?



# Wat is e-learning?

- Het versterken van leren met technologie
- Leren met behulp van mogelijkheden van ict
- Leerinterventies met behulp van ict

# Welke vorm van e-learning?

- Formeel of informeel
- Didactisch kader
- A-synchroon of synchroon
- Soort en mate van technologie
- Zelfstudie
- Virtuele klaslokaal
- Online samenwerken
- Online bronnen raadplegen
- Virtuele werelden

Face to face → flipped classroom → online leren

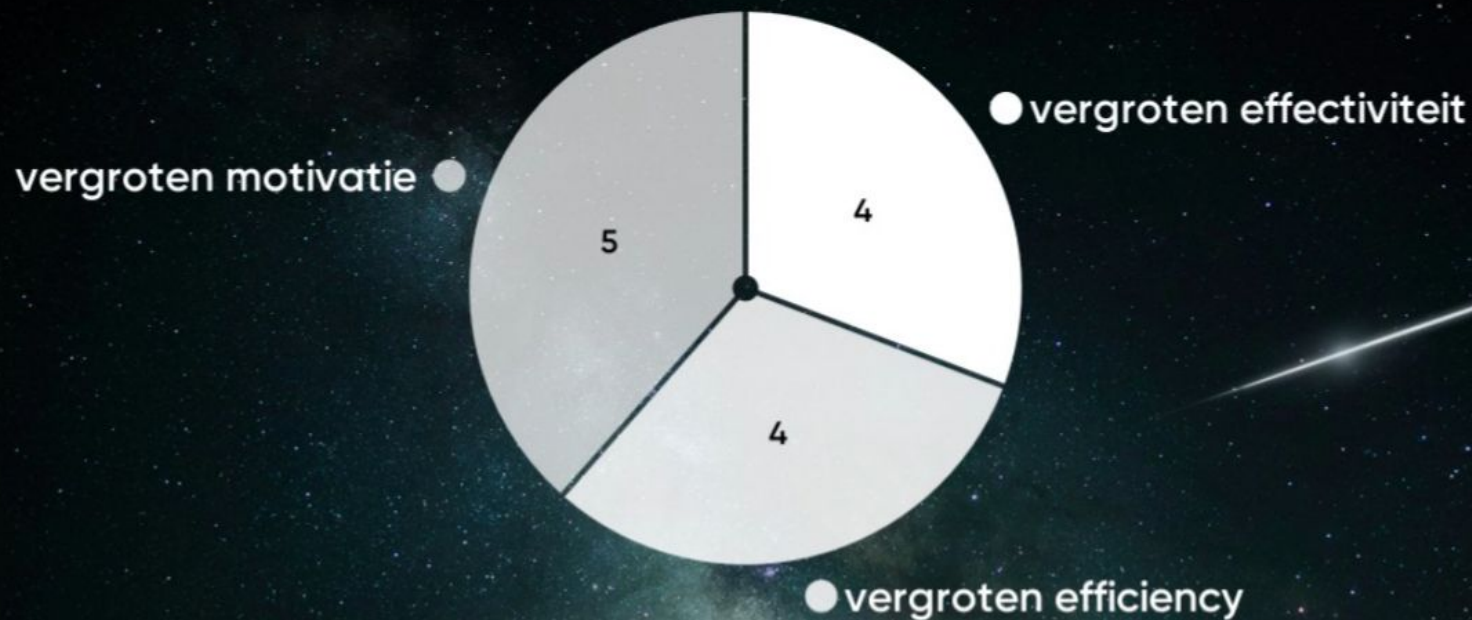
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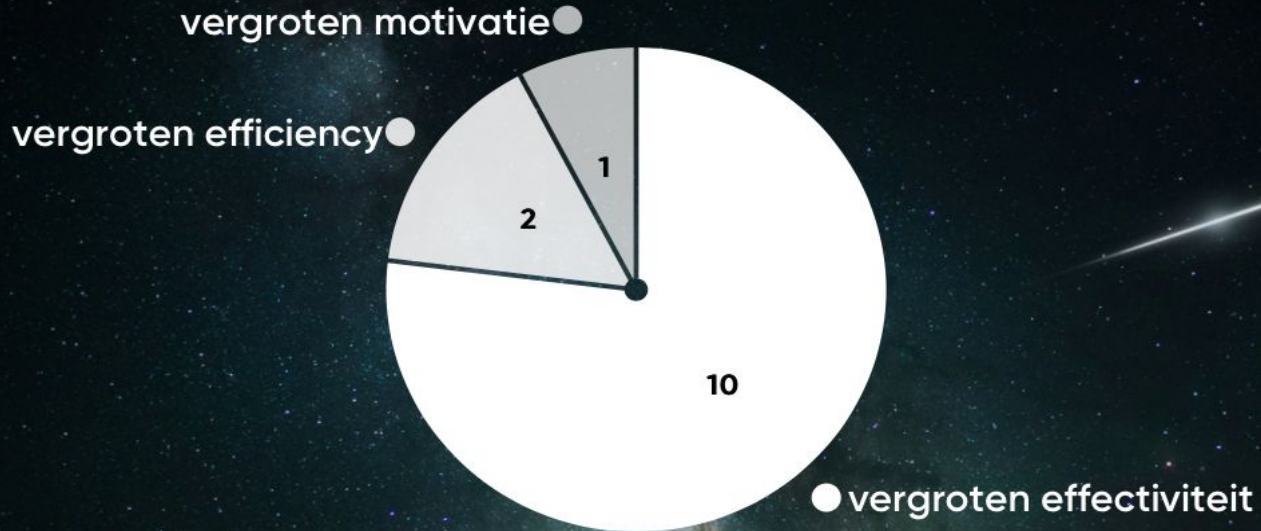
# Waarom e-learning?

- 
- Effectiviteit
  - Efficiency
  - Impact
-

# Met welk doel zet je e-learning in?



# Met welk doel zet je e-elearning in?



Previous Session

Go back to current

# Trends en ontwikkelingen in e-learning

1 Artificiële intelligentie

2 Adaptief leren

3 Learning analytics

4 Sociaal leren

# Trends en ontwikkelingen - vervolg

5 Virtual en augmented reality

6 Videobased leren

7 Microleren

8 Maken (MakerEd)

# Trends en ontwikkelingen - vervolg

9 Open educatie : MOOCS/SPOCS

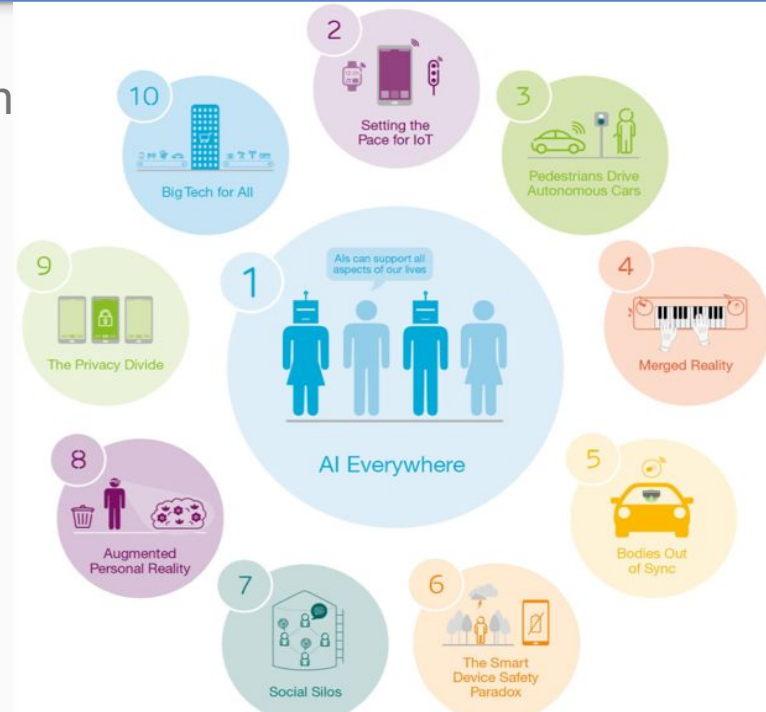
10 Badges en microcredentials

11 Blockchain

12 Spraak













# 1. Het belang van artificiële intelligentie

- Ondersteuning bij routinetaken (automatisch nakijken)
- Ondersteuning leerders
- Inspelen op diversiteit leerders
- Meer ruimte voor persoonlijke begeleiding
- Zwakke punten binnen groep identificeren



# 2. Adaptief leren

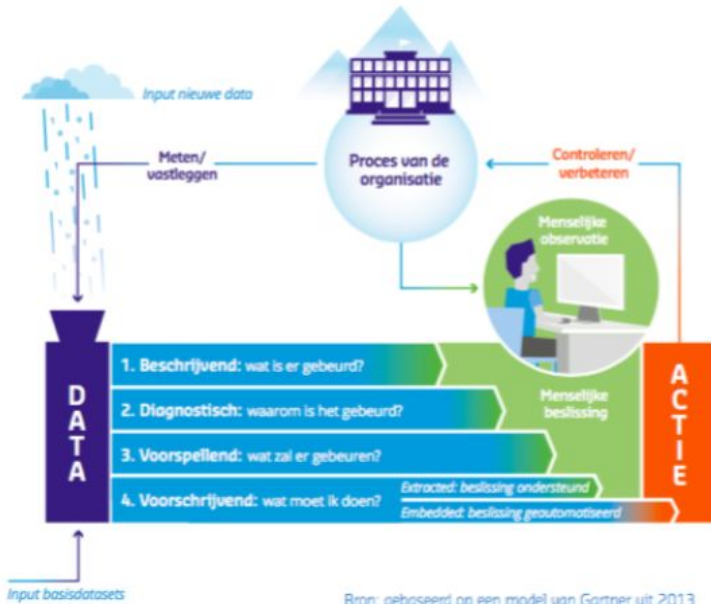
## Continuous optimization

Learner's knowledge	Learner's activities	Content factors
 LEARNER PROFICIENCIES	 LEARNER PACE	 ASSET RELATIONSHIPS
 ASSESSMENT NEEDS	 REPETITION OF MATERIAL	 INSTRUCTIONAL VALUE
 NEED FOR REMEDIATION	 LEARNER STRATEGIES	 ASSESSMENT VALUE
 WHERE TO MOVE FORWARDS		 QUESTION DIFFICULTY
		 CONTENT DURATION
		 ENGAGEMENT





# 3. Learning analytics



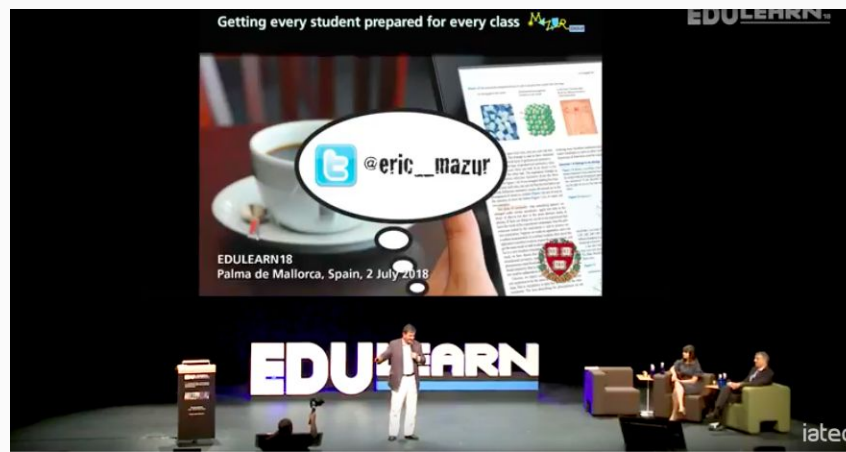
Bron: gebaseerd op een model van Gartner uit 2013

## SWOT-analyse big data en learning analytics

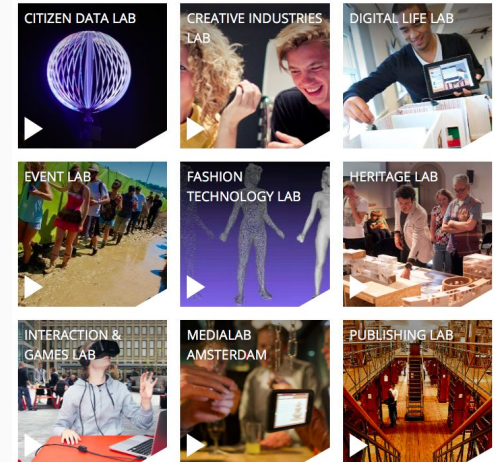


# 4. Sociaal leren

The Social Leadership Handbook  
By Julian Stodd  
www.julianstodd.wordpress.com



- Belang van online samenwerkend leren
- [Onderzoek naar online samenwerkend leren](#)
- Van leren naar ervaren



In the preceding two chapters, we developed a mathematical framework for describing motion along a straight line. In this chapter, we continue our study of motion by investigating inertia, a property of objects that affects their motion. The experiments we carry out in studying inertia lead us to discover one of the most fundamental laws in physics—conservation of momentum.

#### 4.1 Friction

Picture a block of wood sitting motionless on a smooth wooden surface. If you give the block a shove, it slides some distance but eventually comes to rest. Depending on the smoothness of the block and the smoothness of the wooden surface, this stopping may happen sooner or it may happen later. If the two surfaces in contact are very smooth and slippery, the block slides for a longer time interval than if the surfaces are rough or sticky. This you know from everyday experience: A hockey puck slides easily on ice but not on a rough road.

Figure 4.1 shows how the velocity of a wooden block decreases on three different surfaces. The slowing down is due to friction—the resistance to motion that one surface or object encounters when moving over another. Notice that, during the interval covered by the velocity-versus-time graph, the velocity decreases as the block slides over ice is hardly observable. The block slides easily over ice because there is very little friction between the two surfaces. The effect of friction is to bring two objects in rest with respect to each other—in this case the wooden block and the surface it is sliding on. The less friction there is, the longer it takes for the block to come to rest.

Figure 4.1 Velocity-versus-time graph for a wooden block sliding on three different surfaces. The rougher the surface, the more quickly the velocity decreases.

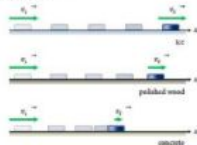


Figure 4.2 Low-friction track and carts used in the experiments described in this chapter.



You may wonder whether it is possible to make surfaces that have no friction at all, such that an object, once given a shove, continues to glide forever. There is no totally frictionless surface over which objects slide forever, but there are ways to minimize friction. You can, for instance, float an object on a cushion of air—this is most easily accomplished with a low-friction track—a track whose surface is dusted with little holes through which pressurized air flows. The air serves as a cushion on which a conveniently shaped object can float, with friction between the object and the track all but eliminated. Alternatively, one can use wheeled carts with low-friction bearings on an ordinary track. Figure 4.2 shows low-friction carts you may have encountered in your lab or class. Although there is still some friction both for low-friction tracks and for the track shown in Figure 4.2, this friction is so small that it can be ignored during an experiment. For example, if the track in Figure 4.2 is horizontal, carts move along its length without slowing down appreciably in either words.

In the absence of friction, objects moving along a horizontal track keep moving without slowing down.

Another advantage of using such carts is that the track constrains the motion to being along a straight line. We can then use a high-speed camera to record the cart's position at various instants, and from that information determine its speed and acceleration.

4.1 (a) Are the accelerations of the motions shown in Figure 4.1 constant? (b) For which surface is the acceleration largest in magnitude?

#### 4.2 Inertia

We can discover one of the most fundamental principles of physics by studying how the velocities of two low-friction carts change when the carts collide. Let's first see what happens with two identical carts. We call these standard carts because we'll use them as a standard against which to compare the motion of other carts. First we put one standard cart on the low-friction track and make sure it doesn't move. Then we place the second cart on the track some distance from the first and give the second cart a shove toward the first. The two carts collide, and the collision alters the velocities of both.

Alan: I remember, in high school, being amazed at how quickly carts could travel on those tracks — air would blow up through these tiny holes evenly distributed along the length of the track and the cart would essentially float on the air and consequently — the cart would move very quickly with the slightest push.

Bob: Although there is no way to create frictionless surfaces, I find it interesting that we consider experiments "in the absence of friction." In a way, this relates back to Chapter 1.5 where we talked about the importance of having too little or too much information in our representations. In some cases, the friction is so insignificant that we ignore it (simplifying our representation).

Claire: Does this only apply to solid surfaces? I bet as if a substance that floats on water either has negligible or very little friction.

Alan: Why is this? I don't get it.

Bob: I believe this applies to almost every surface, although I'm not sure if water would count more as resistance than friction. Anyway, the best example I could think of would be a surf board. If people who were paddling in the same direction as the waves experienced no resistance, they would continually speed up, and eventually reach very high speeds. However, in reality if they were two stop paddling they'd slow down and only the waves would slowly push them to shore.

Claire: Is it possible to have a surface, in real life, that inflicts NO friction at all?

Claire: Doesn't air resistance factor into this at all?

Bob: The key word is "appreciably." In the absence of friction, the cart does not slow down appreciably but still would a little due to air resistance.

Alan: a) yes b) concrete has the acceleration of greatest magnitude

Claire: I would think that they are not constant because if we think of the formula  $F=ma$ , the force of friction is different in every case.

Bob: As a theoretical question about inertia, if an object in motion will stay in motion, but is being affected by friction, will it slow down perpetually but remain in motion, or will it eventually stop completely due to the friction? Just curious.

Claire: With friction everything slows down to a half at one point or another. It is only if an outside force acts on the object if that object will maintain motion after the effects of inertia.

Alan: Standard carts, identical carts in mass, shape, etc. I like this notion of standard carts. It provides a good baseline to compare other motion and to understand the concepts before building on it.

Alan: Great visual representation of friction! It is interesting how this compares the velocity of things on different surfaces.

Bob: The rougher the surface, the more friction between the surface and the wooden block, and thus acceleration will be greater.

Course Organizer - NAFYS... P NAFYS05E-2016-2017

https://app.perusal.com/courses/nafy05e-2016-2017-18/16/blog-confusion-report/as

Domesticall

Confusion report for Atoms\_Radiation\_and\_Radiation\_Protection, Pages 155-174

Topic 1 (Page 161)

Why is there no analytic formula? Is it not possible to calculate it analytically or is it not derived yet?

Why does the energy loss by radiation and excitation behave differently?

Is this because of the attraction forces (Coulomb force) that increase with number of protons? Does the number of electron in atom affect the bremsstrahlung?

Why is it interesting to get examples of electron tracks in water? For chemical use. Because the human body contains a lot of water? Or is there another important reason?

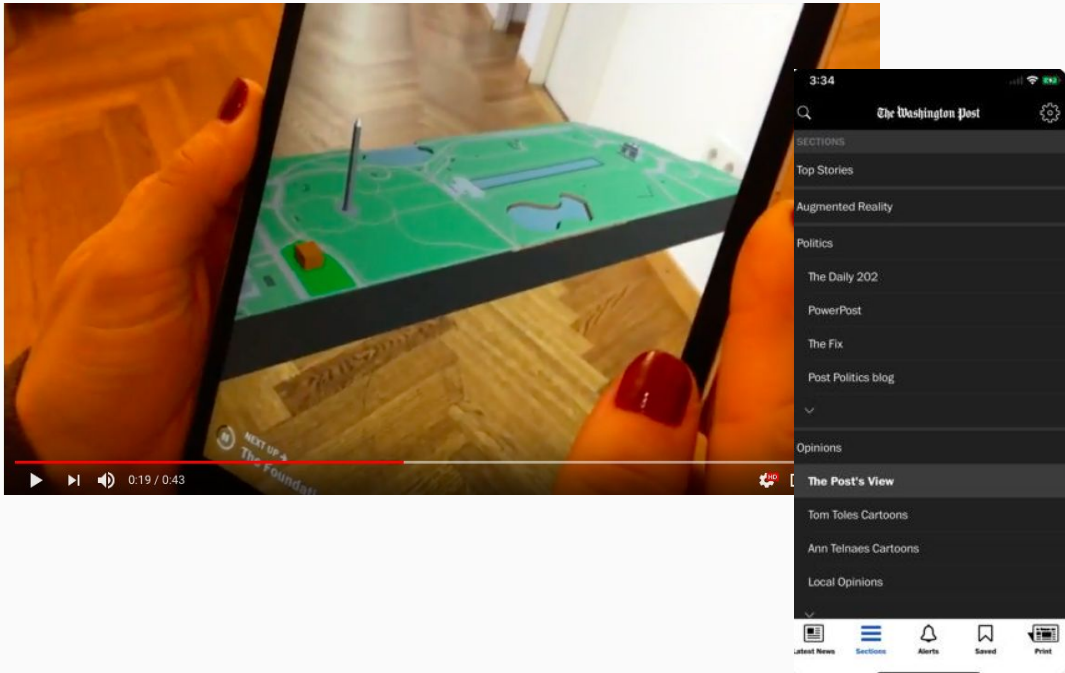
Do they take 7.4 eV because below this value the electronic excitation is not possible?

How can you tell this? How can you recognize an energy-loss event in this figure?

What is a good indicator?

As this procedure overestimates the electron.

# 5. Augmented reality &



- Koppelen van digitale projectie aan de werkelijkheid
- Ten behoeve van storytelling, service en sales

# 5. Virtual reality

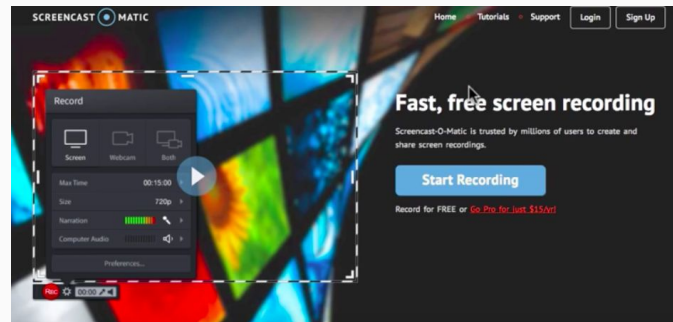


# 6. Video-based learning

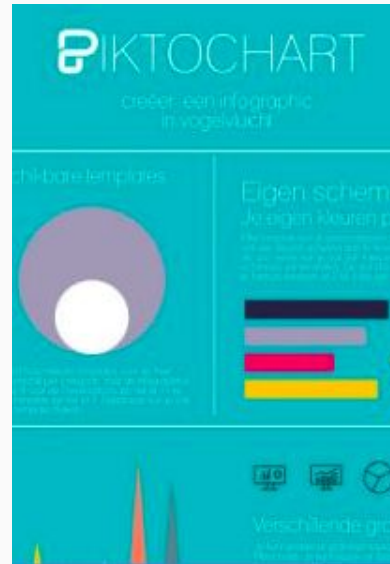
MOBILE  
MOVIE  
DAYS



- [Student generated content](#)
- [Feedback via video](#)
- [Screencast tutorials](#)



# 7. Microleren

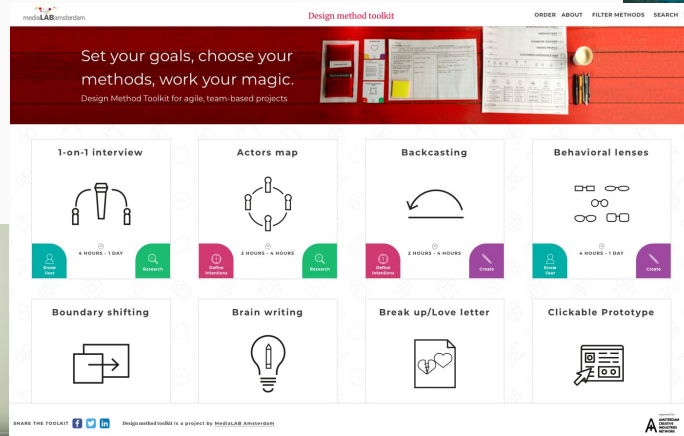


Scott Pitts' (Webster uni) 'micro learning nuggets'

Met dank aan [Marie Louise Kok](#)

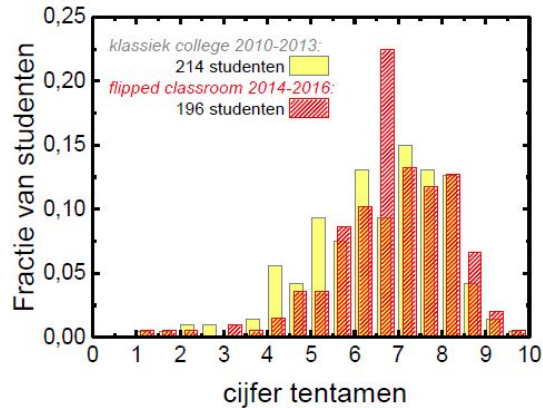
# 8. Maken (makered)

- Studenten als creator
- Leerders als producenten
- Mogelijkheidsdenkers versus werkelijkheidsdenkers





# 9. Open educatie: MOOCs/SPOCs



[Onderzoek Surfnet ' studenten online begeleiden](#)

Status	Last access	Last completion	Progress	Activity (14 days)	0,1 A warm welcome!
✓	06/20/18	06/20/18 3.3 Test on LU 1 and LU 2			✓ 06/6/18
!	06/19/18	06/11/18 0.4 Introduce yourself			✓ 06/6/18
✓	06/21/18	06/21/18 3.3 Test on LU 1 and LU 2			✓ 06/19/18
✓	06/22/18	06/22/18 3.1 This week's program			✓ 06/6/18
✓	06/22/18	06/21/18 1,10 Evaluation			✓ 06/4/18
!	06/21/18	06/21/18 3.2 Experiences with online...			✓ 06/1/18

SPOCs	MOOCs
Small Private Online Course	Massive Open Online Course
Ingangseisen vaak vergelijkbaar met campusonderwijs	Vrij toegankelijk en gratis
Kleinschalig (meestal 15-20 deelnemers)	Ongelimiteerd aantal deelnemers
Veel contact met docenten	Weinig contact met docenten
Veel contact met 'peers'	Veel contact met 'peers'
Complete cursuservaring	Complete cursuservaring

# 10. Open edubadges en microcredentials


Mijn Online Leeromgeving Je bent niet ingelogd (Login)

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## Echte klantfocus met Design Thinking voor Learning Professionals

Startpagina / Echte klantfocus met Design Thinking voor Learning Professionals

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**Details ontvanger**  
**Naam** natasja corver

**Details uitgever**  
**Naam uitgever** Leerbeleving i.s.m. Next Learning  
**Contact** support@mijnonlineleeromgeving.nl

**Badgedetails**  
**Naam** Echte klantfocus met Design Thinking voor Learning Professionals  
**Beschrijving** Echte klantfocus met Design Thinking voor Learning Professionals Door Nick van Dam, hoogleraar, adviseur en auteur & Judith Grimbergen, trendwatcher, designer, docent en auteur. Deze Design Thinking-sessie volg je als een mini-cursus tijdens het Next Learning Event 2018. Van 11.00 – 13.00 uur (dat valt samen met sessieronde 1 en 2 van het programma).

**Opleiding** Next Learning Event 2018 - Design Thinking  
**Criteria** Gebruikers krijgen deze badge als ze aan volgende criteria voltooien:  

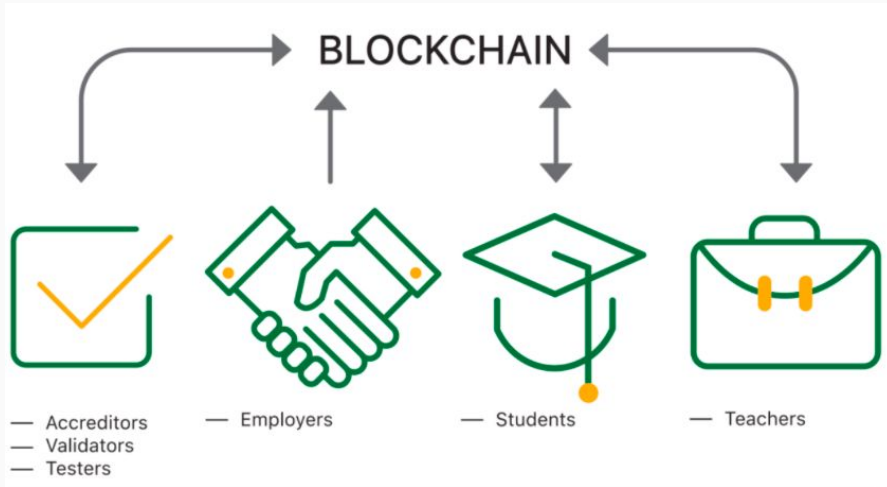
- Gebruikers moeten deze cursus voltooien."Next Learning Event 2018 - Design Thinking"

**Badge verloopt**  
**Uitgavedatum** woensdag, 9 mei 2018, 21:12  
**Bewijs** Deze badge was uitgegeven voor het voltooien van:  

- Gebruikers moeten deze cursus voltooien."Next Learning Event 2018 - Design Thinking"



# 11. Blockchain



- Open source verificatie van je diploma's
- Leerder beschikt over eigen data

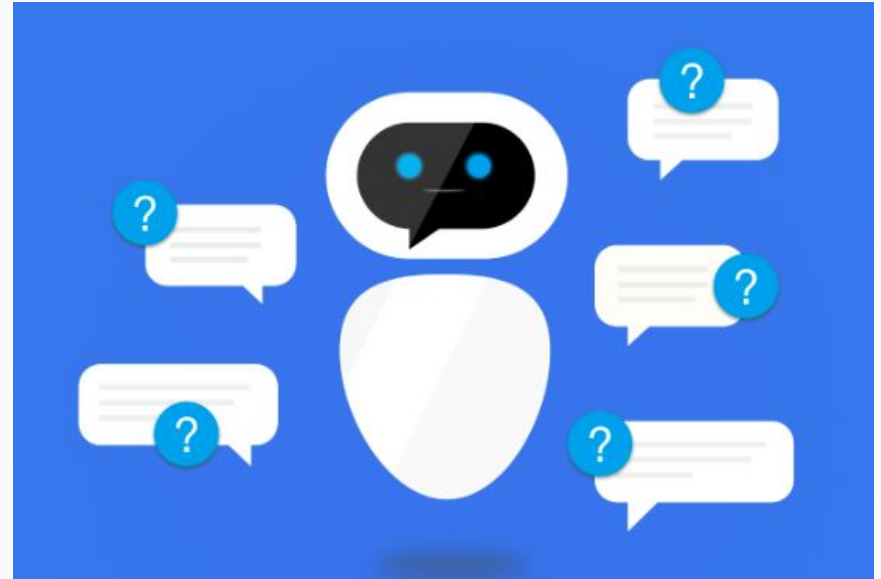


## 12. Spraak



# Spraak in onderwijs

- Tutor thuis
- [Onderwijsassistent in de klas](#) : vertaler, updaten info uit boeken
- Algemene vraagbaak
- Toolkit
- .....



# Welke trend inspireert je?

Gamification

AI

Interactie.

Video feedback, maar dan wel met interactiviteit, dus realtime.

Voice

Gedrag en e learning

Voice, absoluut En videofeedback En maatwerk op alle gebied En spock

Feedback video/audio. Individuele toepassing

Voice



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# Tools: voorkennis activeren



**Mentimeter**



**padlet**

# Tools: online samenwerken



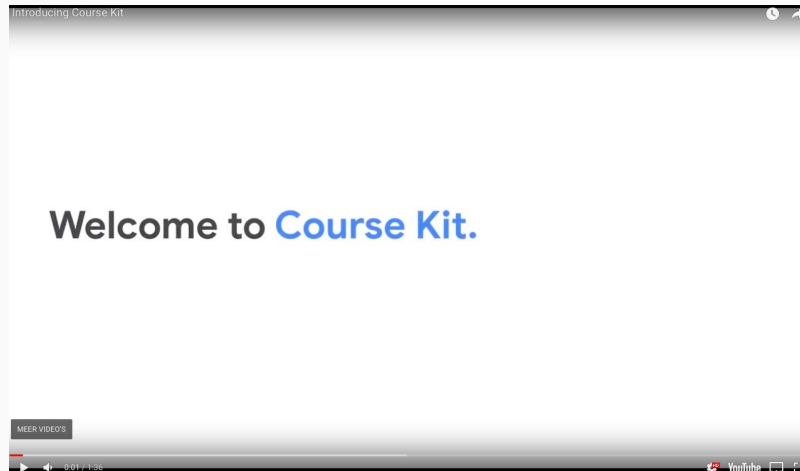
Google docs



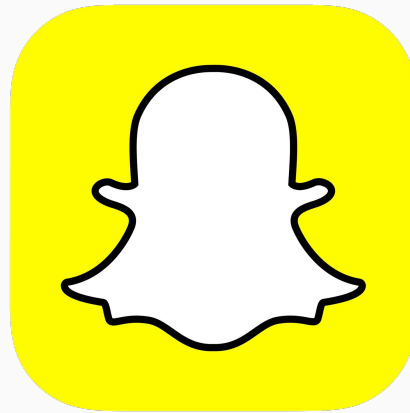
# Tools: feedback

**G Suite for Education**

[Beta versie Course Kit](#)



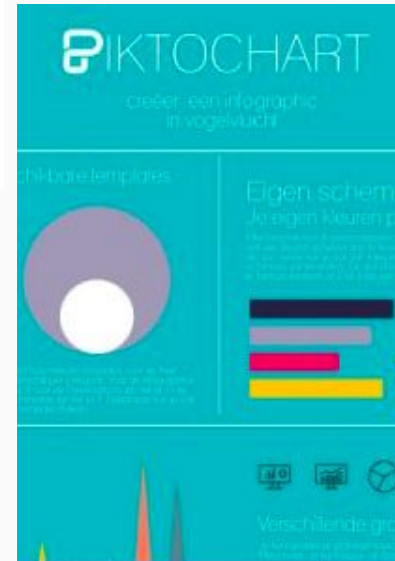
# Tools: advance organizers



Google docs



# Tools: reflectie



# TIPS

- Begin klein
- Experimenteer
- Leer van elkaar
- Leer samen met je studenten

“It’s not about technology, it is about  
learning”

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- Stephan Anspacher

# Dank voor jullie aandacht!

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