

User Centered Design method & Wikiwijs

What do teachers expect when sharing learning materials in an open online environment?

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User Centered Design & Wikiwijs

Wikiwijs

User Centered Design

Results: Mental model/Affinity diagram

Results: Personas

Wikiwijs

- Wikiwijs is a the place on the **internet**
- Where all **teachers** in the Netherlands
- Ranging from **Primary education** to **Higher education**
- Can find, (co)develop, share, rework and use **digital learning materials**
- Published under an **open license**
- Wikiwijs is referring to the philosophy of Wikipedia (using ‘**the wisdom of the crowds**’)
- Wikiwijs is not referring to the functionality or user interface of Wikipedia



Wikiwijs: Approach chosen User Centered Design

- UCD in a nutshell
 - Putting the **focus** on the **needs, wishes and capabilities** of end users during every part of the design process
- Why?
 - Large group of mostly **unknown (potential) users**.
 - **Good experiences** in earlier studies using this approach.
 - New information system with **no earlier experience** on the whole field to be supported.



User Centered Design & Wikiwijs

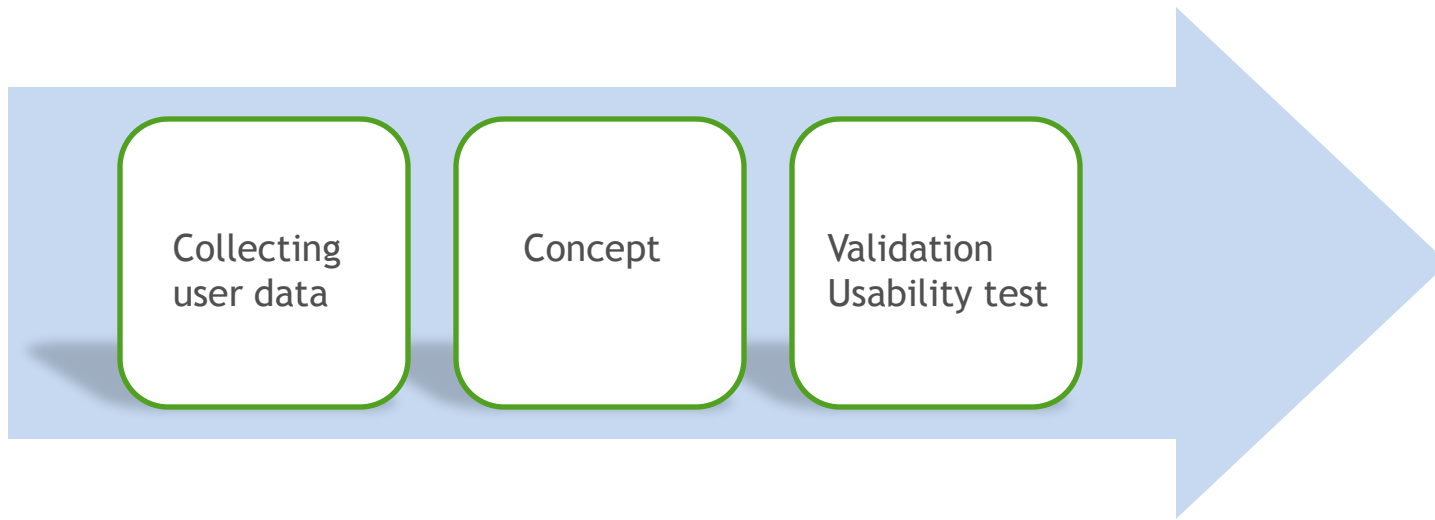
Wikiwijs

User Centered Design

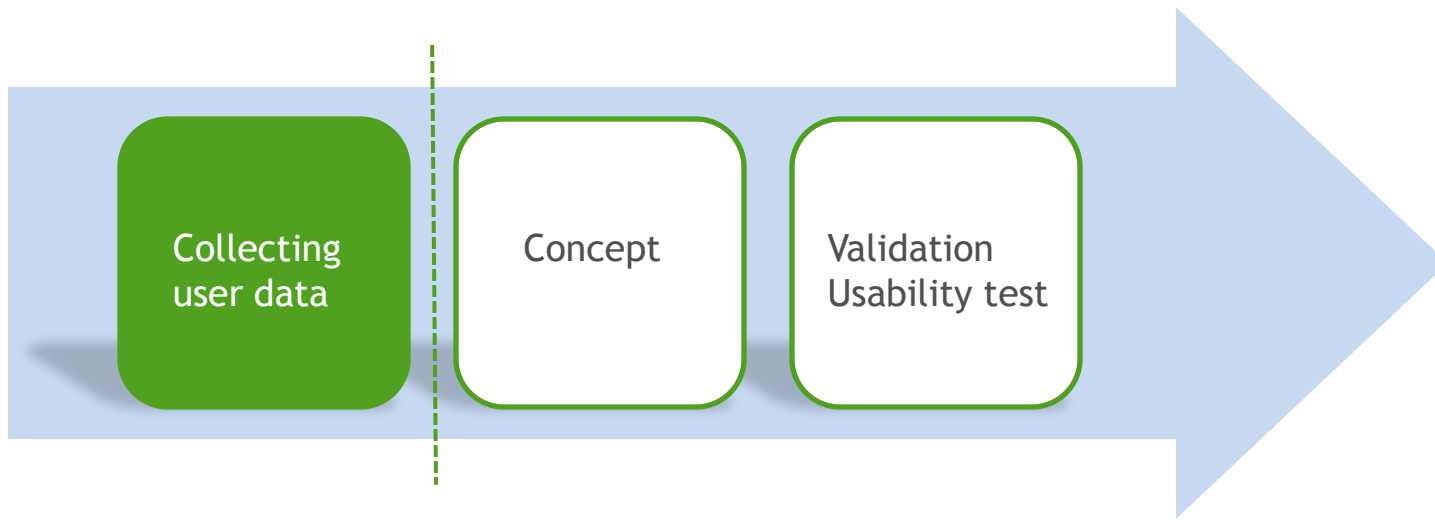
Results: Mental model/Affinity diagram

Results: Personas

User Centered Design: Design process



User Centered Design: Design process



User Centered Design: Method

Collecting
user data

- Interviews and observations in the workspace.
- Creating abstract models; mental model/affinity diagram, flow model, sequence model, artefact model.
- Creating personas.
- Design strategy for the long term.

User Centered Design: Method

Collecting
user data

- Interviews and observations in the workspace.
 - **Qualitative**
 - Answering ‘why’ questions and questions about ‘how to solve a problem’.
 - Data is collected directly by talking to real the users.
 - During the interviews users are directly observed. (How they work and use product or artefacts.)
 - Questions can be asked following the story being told and the observations.
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 - Interview type
 - Student/Master approach.
 - Semi-structured.
 - Let the story be told in the users own words in a natural conversation.
 - Look for details, not abstractions.
 - Stay in the present, no past or future.
 - Listen!
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 - Listen!
 - What are we looking for?
 - Detailed structure of work and tasks.
 - We want to know how people organize their work and whether they have the same approach as someone else.
 - How the tasks are divided in activities, goals, different strategies and individual steps.
- Creating abstract models; mental model/affinity diagram, flow model, sequence model, artefact model.
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 - What are we looking for?
 - Detailed structure of work and tasks.
 - We want to know how people organize their work and whether they have the same approach as another person.
 - How the tasks are divided in activities, goals, different strategies and individual steps.
 - Collected data can be used for 3-5 years
- Creating abstract models; mental model/affinity diagram, flow model, sequence model, artefact model.
- Creating personas.
- Design strategy for the long term.

UCD: Wikiwijs | Gaining insight into how teachers work

Research question

- Activities concerning and dealing with information in relation to the development, use and choice of learning materials.

Sub questions

- **Preparing lessons**; Making the material usable for teaching.
- Why do or don't they make digital learning materials themselves and do they want support in this process?
- **Sharing** of materials.
- What are the **triggers** (motivations) for publishing learning materials?
- What activities **they do before, during** and **after** the lesson?
- **Reuse** of (online) materials.
- **Communication** with students.
- The **current supply** of learning materials.
- **Barriers** and **pluses** in the daily practice.

UCD: Wikiwijs I Interviewing teachers

- In **total 34 interviews**, each interview lasting one hour.
- Roles for the target groups, per school level.
 - **Experience in using** digital learning materials (low, high).
 - **Experience in creating** digital learning materials (low, high).
 - Teacher **educator** (yes, no).
 - While choosing we take into account the **biggest variety of circumstances**: age group, locations, male/female, etc.

UCD: Wikiwijs I Choice of participants

Role	A	B	C	D	E	F
Participant 1	X	X	X			
Participant 2	X	X	X	X	X	
Participant 3	X	X	X			
Participant 4		X		X		X
Participant 5	X		X		X	
Participant 6	X	X	X	X		X





Interviews in the workplace

<http://www.leraar24.nl/dossier/1122/ontwikkeling-wikiwijs-ucd-technieken>
<http://www.leraar24.nl/video/1232>

User Centered Design & Wikiwijs

Wikiwijs

User Centered Design

Results: Mental model/Affinity diagram

Results: Personas



Filterdesign

Results: Mental model/Affinity diagram *

Describes the work from the **standpoint of the users** in their own words.

- Handling of information in relation to the development, use and choice of materials.

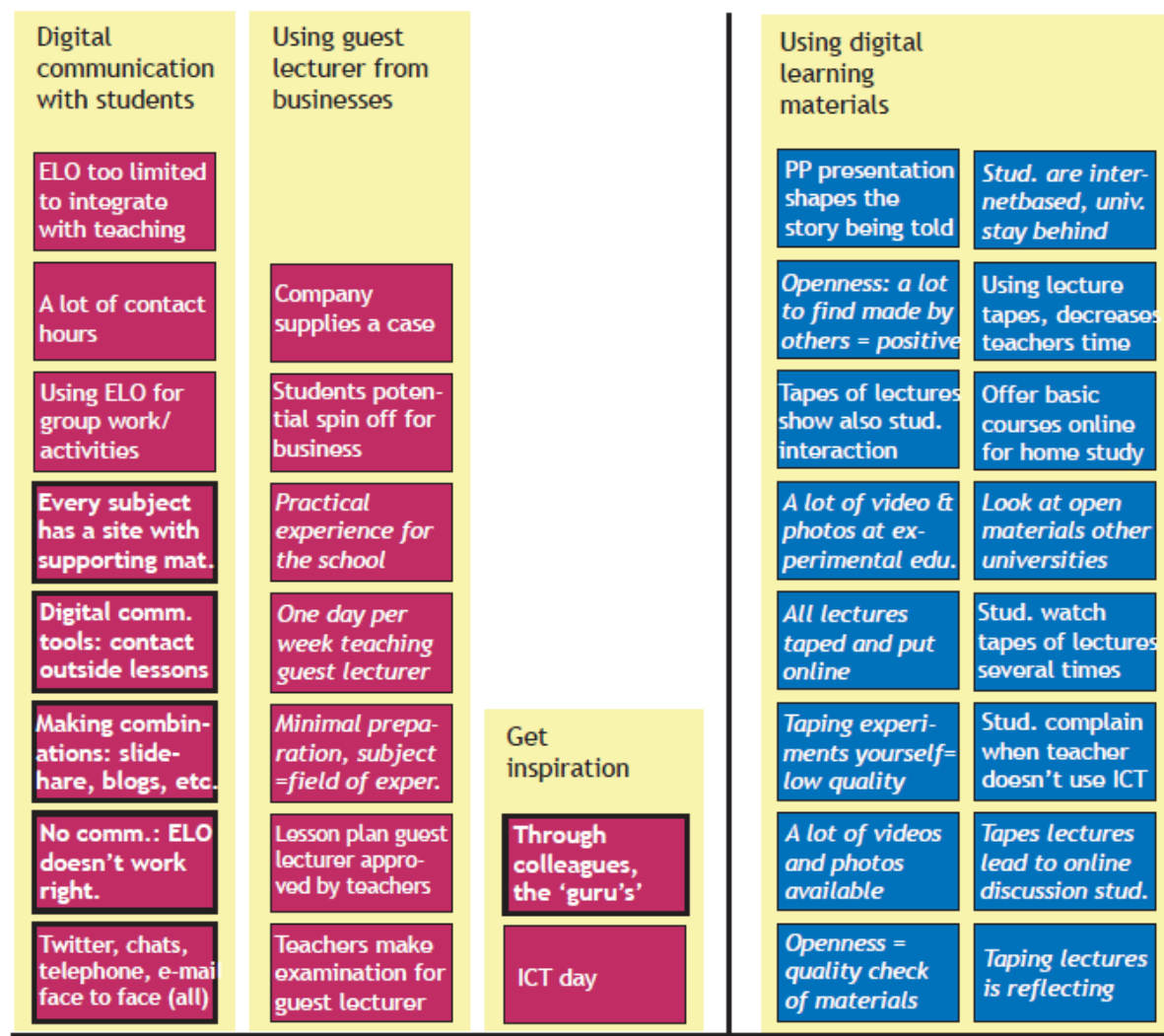
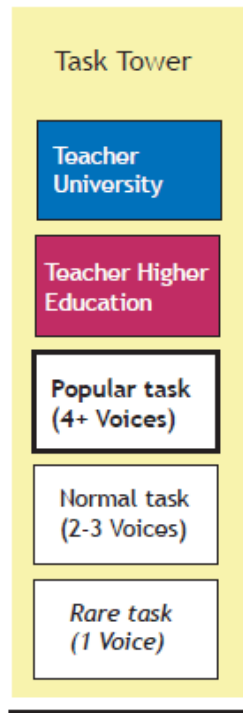


Results: MM Higher education and universities

Mental Model Development materials

RdMC & Kennisnet
Copyright RdMC & Kennisnet 2010

Legend Mental space



Results: Mental model categories

- **Finding and using** digital learning materials
 - Looking for different ways to perform educational activities
 - Author and institution are important determinants for using specific learning materials
 - Efficiency is important
- **Creating or adapting** digital learning materials
 - Develop modules as a team
 - Demands by students are the trigger
- **Sharing** digital learning materials
 - Use Slideshare for slide presentations meant for students
 - Use intranet sites; only accessible for your own students
- **Communicating** with students
 - Combine Slideshare, blogs, twitter, e-mail
 - Do not use the Electronic Learning Environment for communication (not suited)

User Centered Design & Wikiwijs

Wikiwijs

User Centered Design

Results: Mental model/Affinity diagram

Results: **Personas**

Results: Personas *

A description of a fictitious user, **representing 1000's of users**



- Based on:
 - Field research: **realistic** behaviour, motivation, attitude, skills and needs.
 - Have their **own name**.
 - Are developed for a **specific context**.
 - Typical and **credible**.
- Not based on:
 - Demographic data.
 - Intuition about the target group.
 - User profiles or stereotypes like ‘dumb blonde’, ‘macho’, ‘working mom’ or ‘good Samaritan’.
 - A ‘magical formula’.

Thanks to Adaptive Path

Results: Persona groups I The segments

- **Structuring**

- Approach: Extensive, many demands, growth, long term.
- Goals:
 - Take on new issues and subjects.
 - Make lesson schemes.
 - Guarantee educational quality.
 - The existing method is not up to standards.
 - Connect to different levels in a group.
 - Doing better than the existing method.
 - Connect to the reality/world of the students.
 - No existing learning materials available.

“There are too many tools. There is too much overlap. But I still can’t find what I need.”

“My teaching is what I am so everything has to be perfect.”

“Community sites have a lot of useful stuff.”

- **Supporting**

- Approach: Simple, little demands, adhoc and short term
- Goals:
 - Clarifying existing lessons.
 - Connect to the reality/world of the students.
 - Variations in lessons.
 - To be sure of your teaching skills.
 - Connect to different levels in a group.
 - Didactics, keep order.

“I just don’t know where to start.”

“I won’t look into it very deep. When I can’t find it I go to another source.”

“Things develop so fast, I wouldn’t know what to do without my paper.”

Results: Personas I Primary school teachers



Luuk Oomen
Leerkracht groep 8

“Als kinderen een half uur op een computer moeten rekenen als omlijsting van hun les, dan is dat veel te veel. Tien tot uiterlijk vijftien minuten. Daarna worden ze het zat.”



Renate Dekker
Leerkracht PO, groep 6

“Wij vinden internet belangrijk. De kinderen groeien daarmee op. ICT komt neer op de schouders van een aantal leerkrachten, ze zijn geen experts maar doen absoluut hun best. ”



Thea Bloem
Auteur voor PO en Vmbo

“Er zijn weinig docenten die docent zijn geworden omdat ze lesmateriaal willen maken. Docenten zijn docent geworden omdat ze voor de klas willen staan om kennis over te dragen.”

Results: Personas I Secondary school teachers



Arnoud Maertens

Docent Scheikunde op Havo en Vwo

“Zelf ontwikkelen van lesmateriaal wordt onderschat. Wat dat oplevert bij je leerlingen en zeker aan motivatie voor je vak. Als je wat anders durft te doen dan het boek.”



Annet de With

Docent Economie op Vmbo

“Ik maak alles zelf. Het boek gebruik ik meer als een naslagwerk.”



Jan Hein Eekhout

Docent Engels op Vmbo, Havo en Vwo

“Hetgeen wat door docenten wordt ontwikkeld moet in het beleid geschreven worden en de school moet met een visie terugkomen anders is er geen beginnen aan.”

Results: Personas I Middle education teachers



Ingrid Asselman
Docent verpleegkunde Mbo.

“Zo lopen er hier ook een paar rond, die geen digibord willen, omdat ze er niet mee om kunnen gaan. Dan denk ik: het begin van de typemachine was ook niet gemakkelijk.”



Justine Mendelaar
Docent omgangskunde en stagebegeleider op Mbo Helpende Zorg en Welzijn.

“Ik heb het idee dat je jezelf aan het verkopen bent. ‘Zie mij eens! Dat gaan we eens publiceren’. Terwijl ik eigenlijk hartstikke trots ben op de dingen die ik doe.”



Hugo Velthuijsen
Auteur voor Mbo en uitgevers.
Onderwijskundige op Mbo.

“Het samen schrijven gaat goed. Als je maar niet te star bent. Dan houdt het snel op. Het overleg met een aantal mensen is heel belangrijk. Nooit één of twee het laten doen.”

Results: Personas I Higher education teachers



Maarit Kotting

Higher education teacher
Mathematics

“ A digital board can be useful but it's not about me making notes but that my students can make notes. I use an ordinary projector and my laptop and you can go online anywhere here in this school.”



Sven Plateel

Higher education teacher
Communication &
Information Management

“ For part-time education I combine the background of students and the learning materials in order to achieve new insights. That to me is very instructive and fun. But that requires other methods than standing in front of the classroom and talk.”



Minke Ulrich

Higher education teacher
Teacher educator in
geography & history

“I really never find materials which I can use without editing. But what I do find online are separated materials and nice ideas, but ultimately I develop it all myself.”

Results: Personas I University teachers



Casper Wilson

Senior lecturer at
Technical University
(master)

“The basic lessons I’ll tape on video, I’ll teach them well once and they stand for the next five years. That’s also the way I see Wikiwijs, a basic will arise and you pick up from there on.”



Elsbeth Weeda

Senior lecturer/Researcher
Organization science
(master and bachelor)

“Frankly, I think you have to ask yourself at any stage: Will a piece of chalk do the job, a whiteboard now, or must you create a complex digital rumpus.”

Casper Wilson

Senior lecturer at
Technical University



Background

- 42 year old man.
- Just married and father of a newborn son.
- He is involved in teaching and research in the field of sanitary engineering.
- Has recently implemented a new educational curriculum.
- Travels a lot because of lectures he gives and conferences he visits.
- Considers web conferences a major outcome in terms of saving time and money.

Personal Profile

At the university where Casper works all lectures are recorded and are digitally available online. Just like all the lecture notes, PowerPoint presentations, examinations and special assignments. At his university they want to use the digital possibilities. Initially, there was an enormous shudder amongst colleagues: "Should we do that, way too modern." But Casper and a group of colleagues want their students to have the best material. This can also be used for recruiting activities, which for Casper is clearly an afterthought. "You can never develop something for the future, you do not know whether it will attract the students. It obviously costs a lot of money to develop education." The consequence of open publishing means all materials automatically undergo a quality check, according to Casper. "Because once we had everything in Blackboard here. And Blackboard is a 'wonderful' closed environment".

The technical department is applied education and is great for making movies of experiments.

The course is internationally established. Therefore there is a very diverse group of students having different backgrounds. "And that makes a nice interaction between students, as a foreign student may say: 'Yes, but in my country we do it very differently.' This way you get a very nice discussion."

Foreign students speak English very well, in theory, but in practice they do not. "I know that some students view the lectures up to eight times." Diversity also arises because the master students have worked already a number of years in practice. They really have very specific questions about issues they encounter in the daily activities of their job.

More and more students ask for digital educational applications. The more you can digitize, the more pleasant it is for them. "And it is really crazy that we get money from the government and that education happens in small rooms at universities where nobody can see it. Make it open! We get paid anyway by the government? So show what you do and if the teacher is afraid to lose his face, then he should not teach. That is part of the game. Anyway, that's my opinion and I know that is not shared by everybody. "

“The basic lessons I’ll tape on video, I’ll teach them well once and they stand for the next five years. That’s also the way I see Wikiwijs, a basic will arise and you pick up from there on.”



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Goals and motivation

Casper comes to Wikiwijs to ...

- Find core courses, for example about a small part of chemistry. The basic components plus a way to link applications to each other. "That would be a nice form of connecting materials."
- Digital didactics for support. To see what's going on in the field of digital learning resources, especially internationally.
- See how educational trends are applied.

Casper expects from Wikiwijs...

- That it focuses on practice. "Publish only theoretically materials and no one will visit Wikiwijs."
- A kind of base for colleagues to be able to build upon. "Fundamental knowledge that you do not want to explain yourself anymore."
- An international set up.
- English language.

Casper will return to Wikiwijs for...

- The core lectures.
- Making referrals to publications and books he writes.
- To see what other experts from leading institutes are talking about.
- Movies of technical experiments, preferably in 3D.

Philosophy of Casper

- Arrange education so that in addition to digital communications your personal contact hours will be maintained. "Extra things you offer to students to make them feel: I'm unique."
- Besides lectures add many practical elements.

Work motivation

- The diversity of students and discussions.
- Develop the best materials together with colleagues .
- Give inspirational lectures that will affect you.
- The personal relationship with the master students.

Internet usage

- Experience: High
- Primary uses: Sites of other (foreign) universities.
- Favorite sites: My department site for the students.
- Hours online per week: Continuous online.
- Computer: My laptop.

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tips

zoeken

[uitgebreid zoeken »](#)

Wikiwijs home

Wikiwijs: Voor en door docenten.



zoek

Zoek naar leermateriaal op sector, vak of bekijk je oude zoekopdrachten »



maak

Maak iets nieuws of gebruik materiaal van anderen om je eigen leermateriaal mee samen te stellen »



deel

Deel je eigen materiaal met je collega's door het te uploaden »

Maak een profiel

- ✓ Bewaar je favoriete leermateriaal
- ✓ Bewaar en bekijk je zoekopdrachten
- ✓ Maak en deel je eigen leermateriaal

[Maak mijn profiel »](#)

Ik heb al een profiel, ik wil me [aanmelden »](#)
[Meer informatie](#) over aan- & afmelden.

Arrangement: De Service Technicus Elektrotechniek



Een arrangement met een inleiding, filmpje en opdracht (Word) welke zelfstandig door VMBO leerlingen kan worden uitgevoerd.

[Bekijk het arrangement](#)

Leerlijnen in Wikiwijs



In Wikiwijs kun je ook werken met leerlijnen. Dit kan nu voor de vakken Rekenen en Taal in het po, Nederlands in vo/mbo en Wiskunde voor vo-onderbouw. Er zijn ook [voorbeeld](#)en van leerlijnen die je zelf kunt aanpassen.

[Lees meer informatie](#) over leerlijnen.

Wikiwijs op de NOT

Bekijk de foto's via [Wikiwijs in het Onderwijs](#).

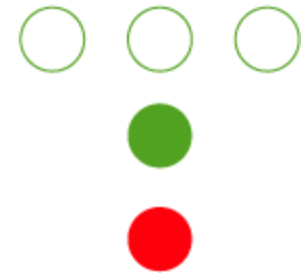
Volg Wikiwijs



Wikiwijs nieuwsbrief

Je kunt Wikiwijs ook volgen via de nieuwsbrief.

[Meld je aan voor de nieuwsbrief »](#)



Thanks for your attention!

karin@filterdesign.nl

<http://www.wikiwijs.nl>

www.ou.nl

www.filterdesign.nl

<http://filterdesign.wordpress.com>

<http://www.leraar24.nl/dossier/1122/ontwikkeling-wikiwijs-ucd-technieken>

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www.rosenfeldmedia.com/books/mental-models

www.adaptivepath.com

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www.cooper.com

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