Blended education

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Blended?!

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Blended Learning?!

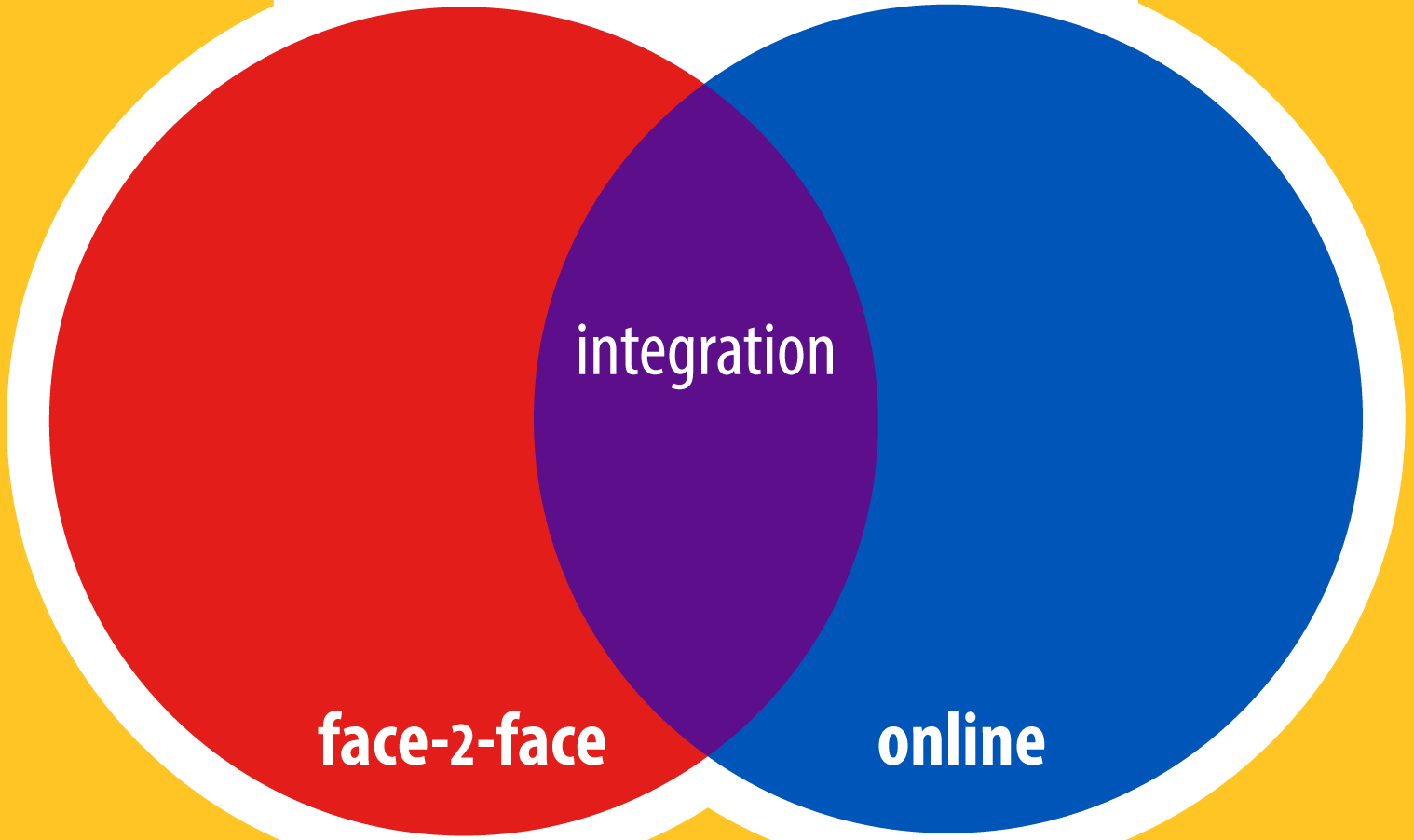
Learning as a result of a **deliberate, integrated combination** of online and face-to-face learning activities.

The European Maturity Model for Blended Education

Face-2-face
Online

Teacher paced
Self study

blended education



No more lectures?

Lecture

F2F


Lecture


Lab Work


Problem solving


Clickers


Student presentations


Game


Peer instruction


Guest lecture

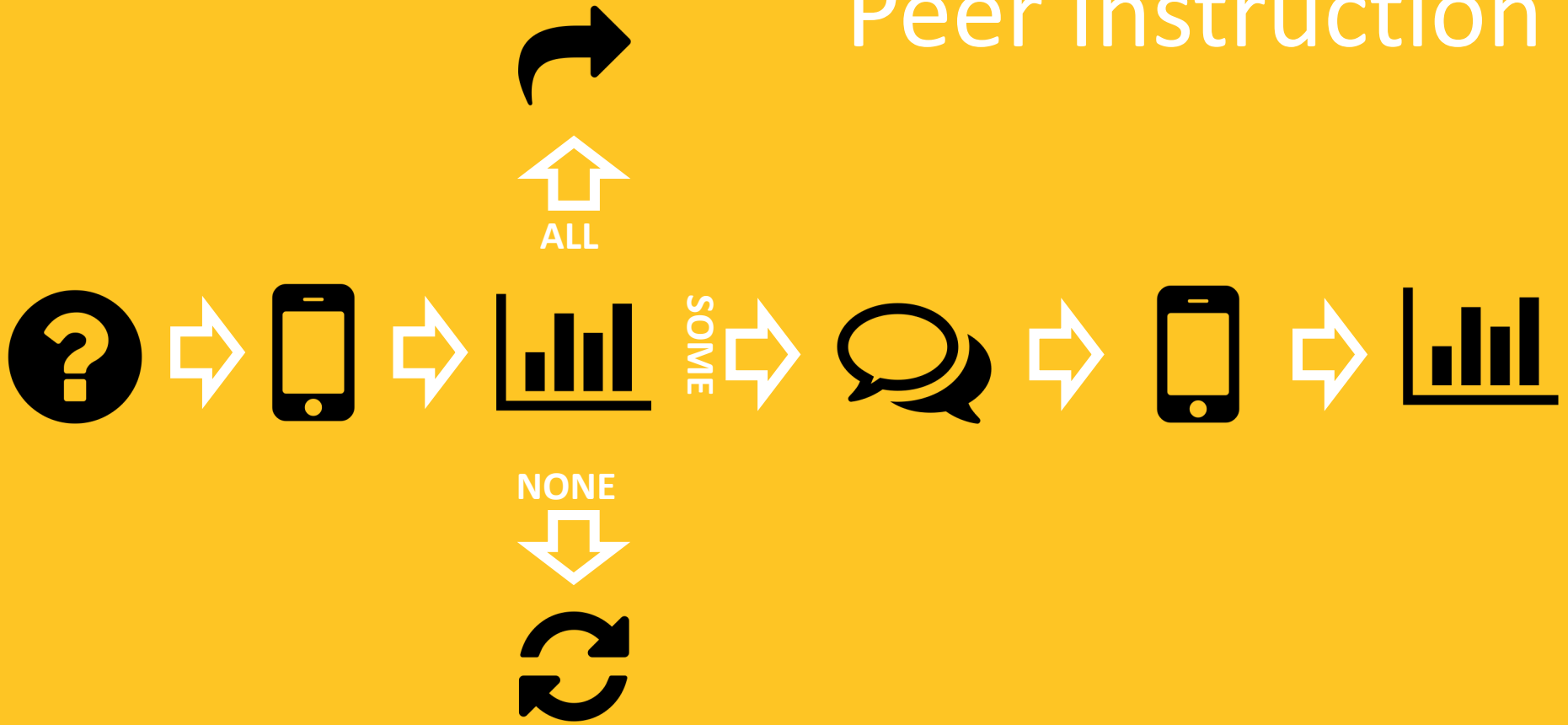

Excursion


Difficult exercises


Discussion


One minute paper

Peer Instruction



F2F


Lecture


Lab Work


Problem solving


Clickers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Difficult exercises


Discussion


One minute paper

Online

F2F


Watch video


Discussion board


Assign-ments


Interactive Video/PDF


Peer feedback


Concept Map


Read Chapter


Online quiz


Online brainstorm


Blog


Case study


Virtual Reality


Lecture


Lab Work


Problem solving


Clickers


Student presentations


Game


Peer instruction


Guest lecture


Excursion


Difficult exercises


Discussion


One minute paper

Blended Learning Wave

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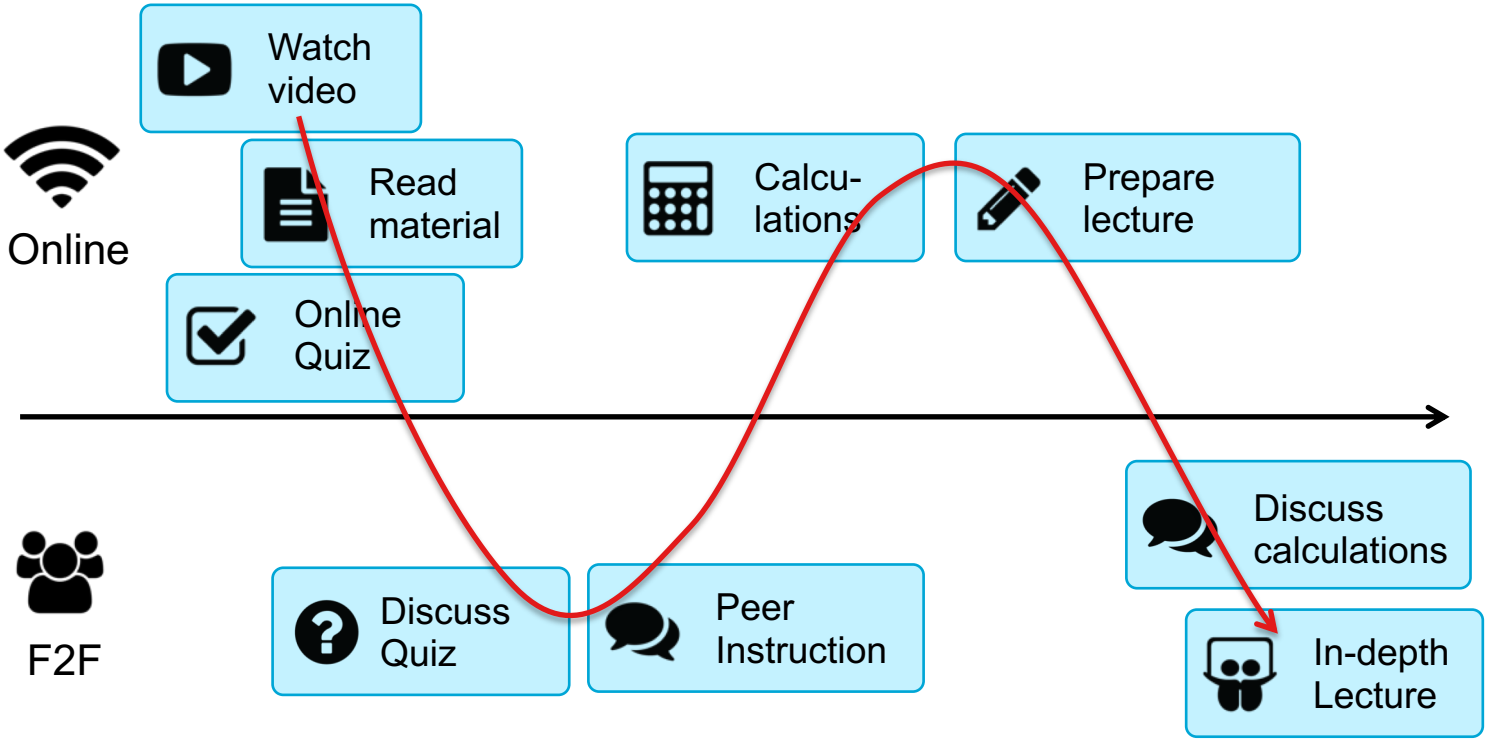
Blended Learning Wave



Pros and Cons

Pros

- Activating
- Accessibility
- Flexibility
- Feedback
- Effective
- Efficient
- Best of both worlds

Cons

- Self-reliant learning needed
- Students may fall behind
- Clicking monkey
- Could lead to lack of face-to-face communication
- More course design choices

Using OER

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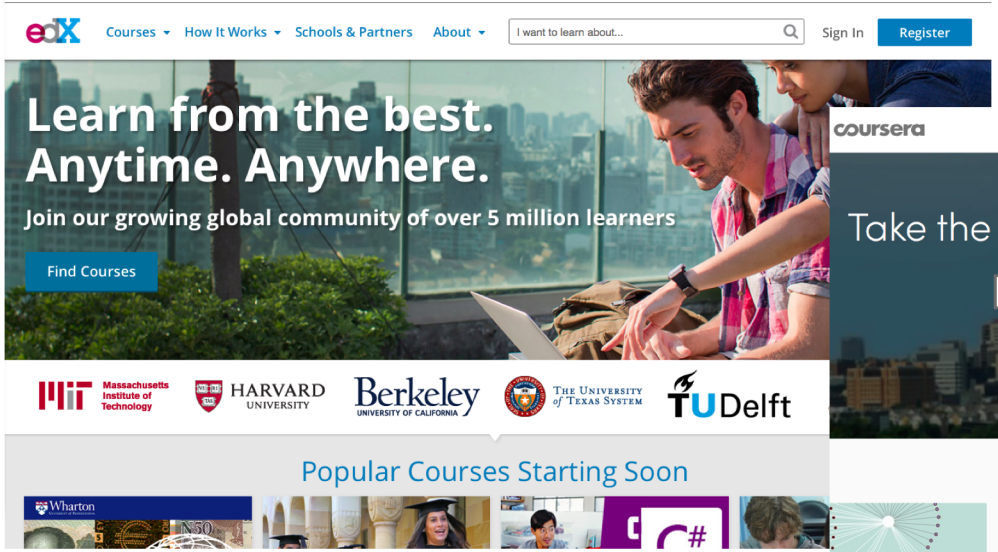
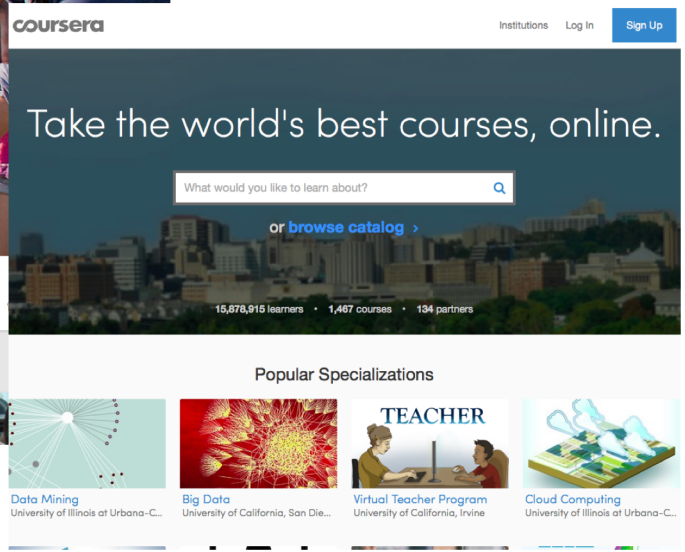
OCW

https://ocw.mit.edu/search/ocwsearch.htm?q=science#

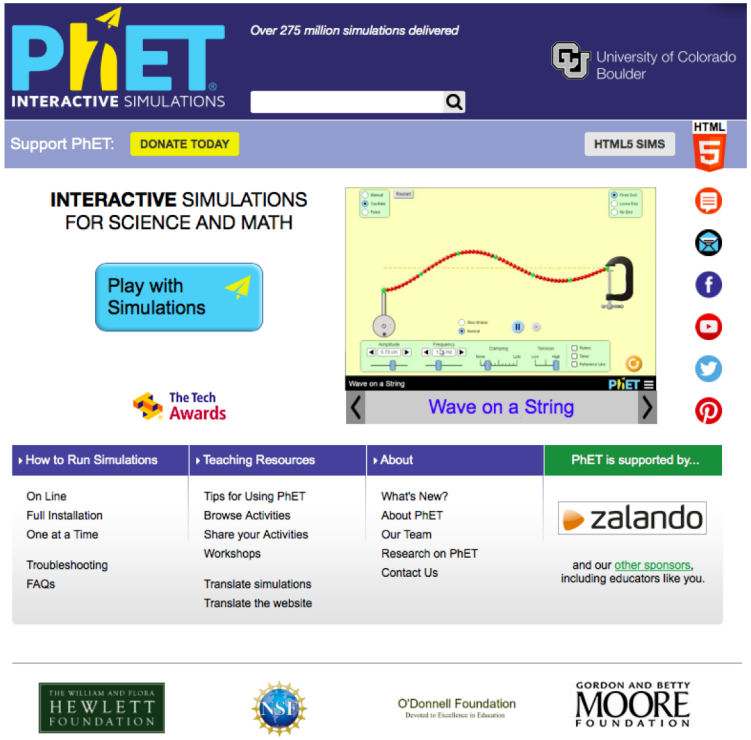
MOOCs





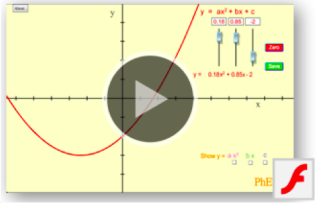
http://edx.org https://www.futurelearn.com http://coursera.org

Open Interactive simulations

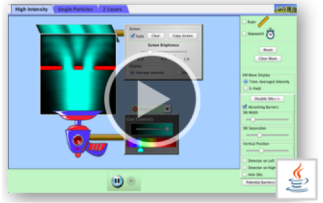


Molecule Shapes

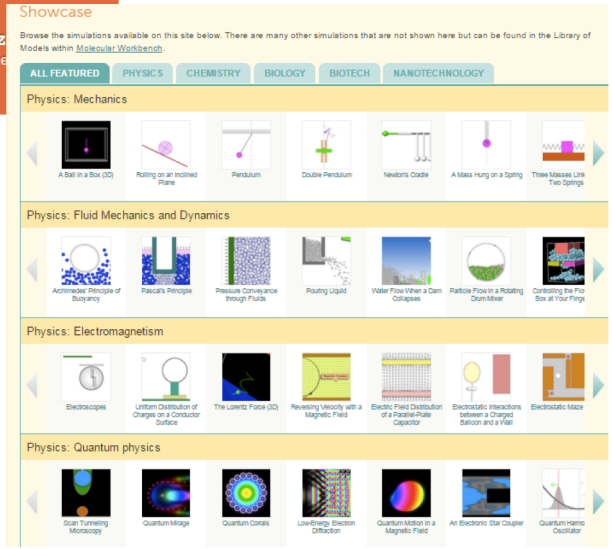
Equation Grapher



Quantum Wave Interference



http://phet.colorado.edu/

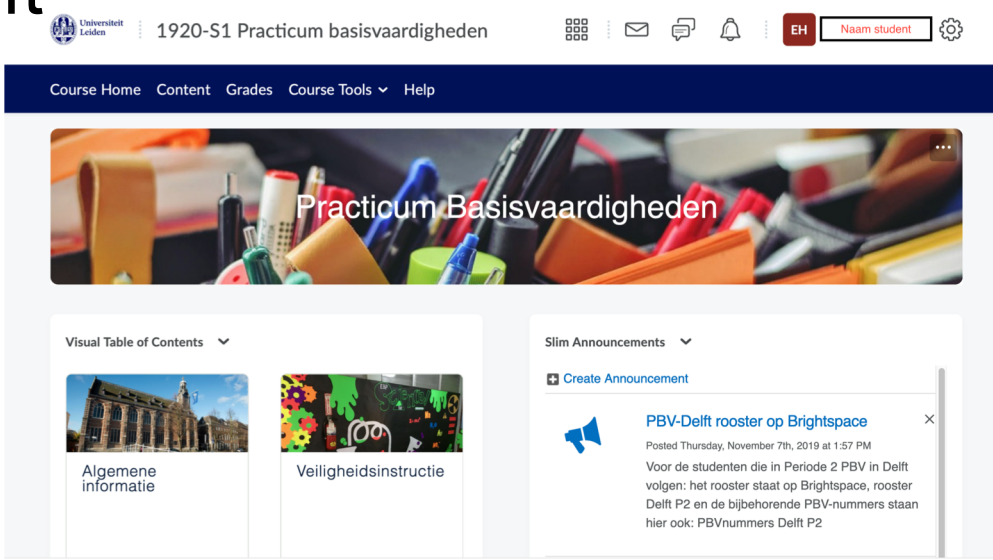


http://mw.concord.org/modeler/index.html

Examples

Practicum basisvaardigheden

- Redesign bachelor course
- Leiden and Delft



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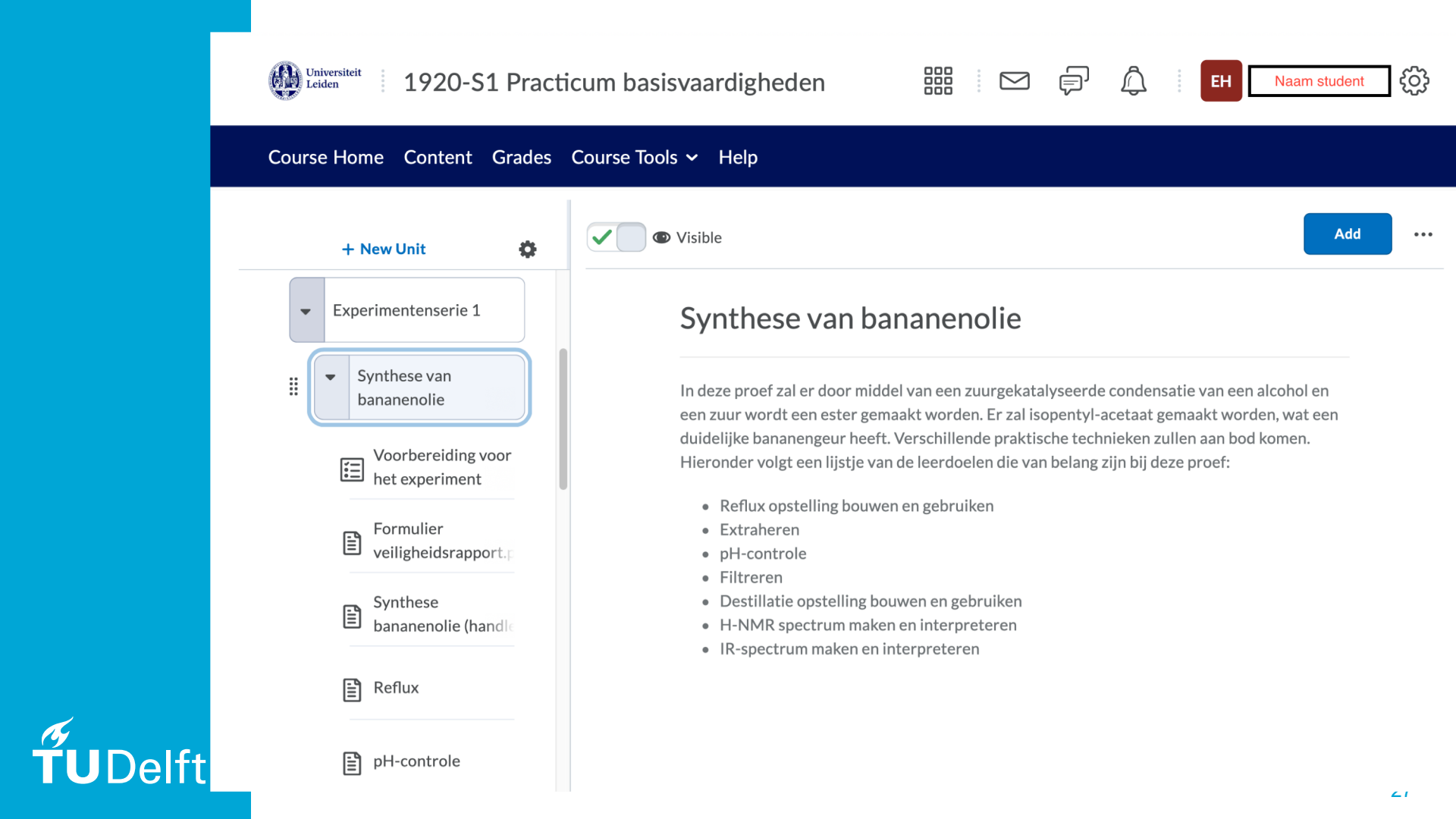
Universiteit Leiden
1920-S1 Practicum basisvaardigheden
EH
Naam student
Course Home
Content
Grades
Course Tools
Help
+ New Unit
Experimentenserie 1
Synthese van bananenolie
Voorbereiding voor het experiment
Formulier veiligheidsrapport.p
Synthese bananenolie (handl
Reflux
pH-controle
Visible
Add
Synthese van bananenolie
In deze proef zal er door middel van een zuurgekatalyseerde condensatie van een alcohol en een zuur wordt een ester gemaakt worden. Er zal isopentyl-acetaat gemaakt worden, wat een duidelijke bananengeur heeft. Verschillende praktische technieken zullen aan bod komen. Hieronder volgt een lijstje van de leerdoelen die van belang zijn bij deze proef:
Reflux opstelling bouwen en gebruiken
Extraheren
pH-controle
Filtreren
Destillatie opstelling bouwen en gebruiken
H-NMR spectrum maken en interpreteren
IR-spectrum maken en interpreteren

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+ New Unit

- Reflux
- pH-controle
- Filtratie
- Destillatie-opstelling
- H-NMR spectrometrie
- IR-spectrometrie
- Extractie

Visible

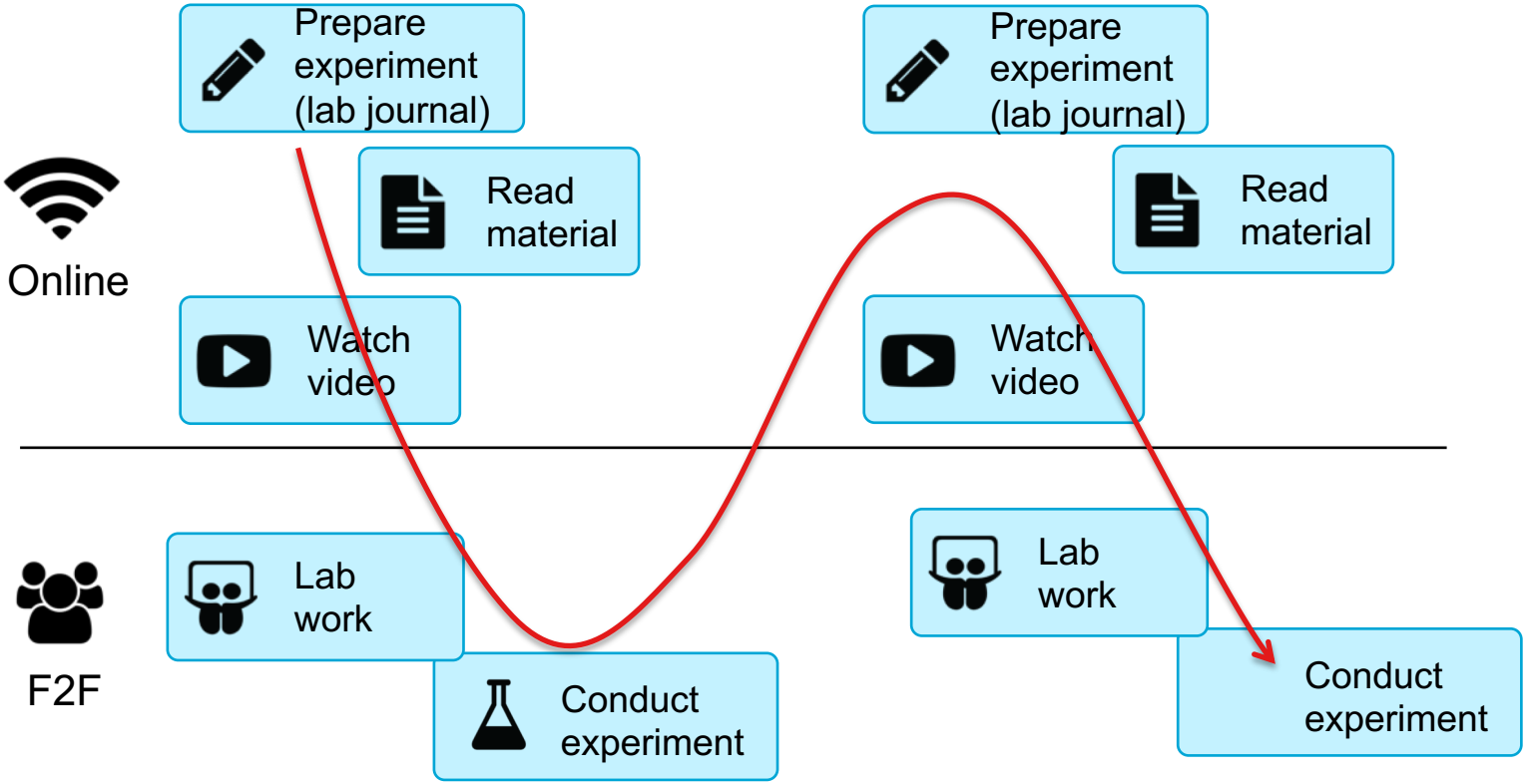
Add

Destillatie-opstelling

Naast het lezen van de handleiding en de aanvullende informatie in de appendix (pg. 53-74) kan dit filmpje (https://www.youtube.com/watch?v=GtuMlWMajtw) je helpen bij het voorbereiden van de proef. Hierin wordt een destillatie opstelling gebouwd en uitgelegd waarmee je rekening moet houden.

Hier volgt ook nog een foto van de destillatieopstelling die gebruikt kan worden bij de voorbereiding van de proef: destillatieopstelling

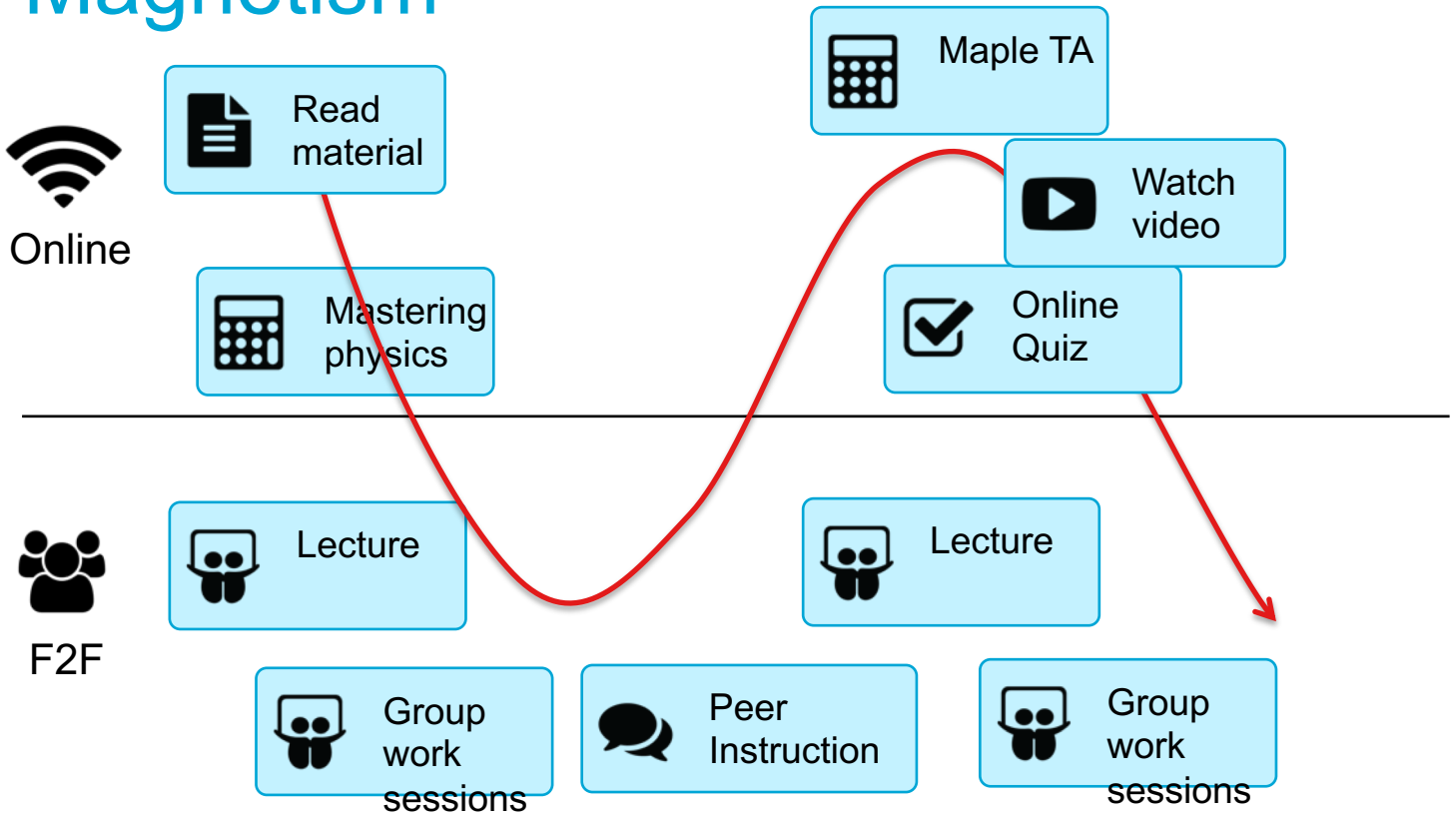
Practicum Basisvaardigheden



Introduction to Electricity and magnetism

- Using MIT MOOC videos
- Online quizzes
- Phet simulations

Introduction to Electricity and Magnetism



So, more blended education?

The best education we can offer

(and it’s probably blended)

Discussion Questions

What is the added value of the teacher?

How (often) do you communicate with your students?

What do you do if students don't do the online work?

How many hours can students spend per week?

How do you use online activities as input?