

# **Innovative STEM Education**

# **The Pedagogical Model**

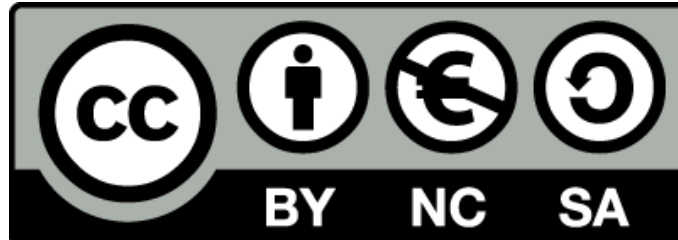
# **Learn STEM**



**by Christian M. Stracke**  
**Open University of the Netherlands**  
**@ Learn STEM Online Conference 2020**  
**Live event: 2020-04-29**

**Open Universiteit**  
[www.ou.nl](http://www.ou.nl)





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# My affiliations

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**Advisory Professor for E-Learning  
East China Normal University**



**Founder & Director of eLC, the European  
Institute for Learning, Innovation & Cooperation**





# My experiences

**> 20 years E-Learning  
in business & academia**



**Research Institute leadership  
and strategic development**



**> 20 years design, realization, evaluation &  
optimization of study programs and courses**



**100+ International Projects: with > € 50 Mio.  
budgets and > € 4.8 Mio. own funding**



**Welcome to our**

*Learn*  
**STEM**

**Online Conference!**

**We are**

*Learn*

**STEM**

# We are *Learn* **STEM**



# Learn STEM network



EEKHOUT  
- ACADEMY -



[www.Learn-STEM.org](http://www.Learn-STEM.org)

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# Open School Education

[www.Learn-STEM.org](http://www.Learn-STEM.org)



# Learn STEM Innovations

**Our Mixed Methods research:**

- **Literature review**
- **30 in-depth interviews**
- **Surveys (> 300 participants)**
- **Workshops at conferences**



See our open publications

[www.Learn-STEM.org](http://www.Learn-STEM.org)

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# Learn STEM for you

Results from Mixed Methods research:

- The [Pedagogical Model Learn STEM](#)
- [Teacher Training Programme](#)
- [Open Online Course](#) (> 600 learners)

All tested & continuously improved with thousands of school teachers, principals & experts



Free to use & adapt!

[www.Learn-STEM.org](http://www.Learn-STEM.org)

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# Pedagogical Model

COMPLEX

PROCESS-ORIENTED

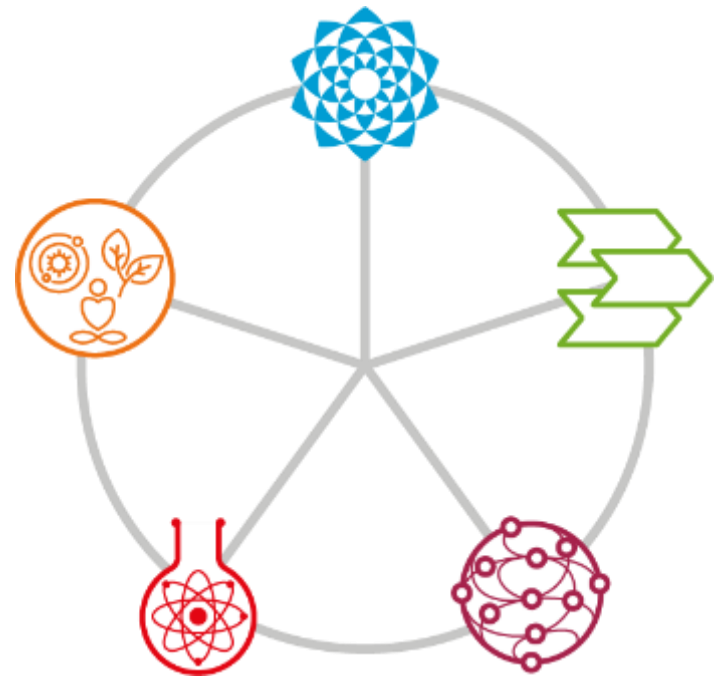
HOLISTIC

PRACTICAL

SOCIAL

Free & open download:

[www.Learn-STEM.org/Model](http://www.Learn-STEM.org/Model)



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# Pedagogical Model

Good practice examples

The Checklist

The Case template

Inquiry Learning Package

Free & open download:

[www.Learn-STEM.org/Model](http://www.Learn-STEM.org/Model)

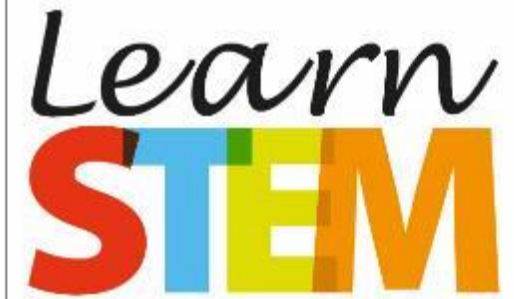


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Learn STEM: Pedagogical innovations for STEM education

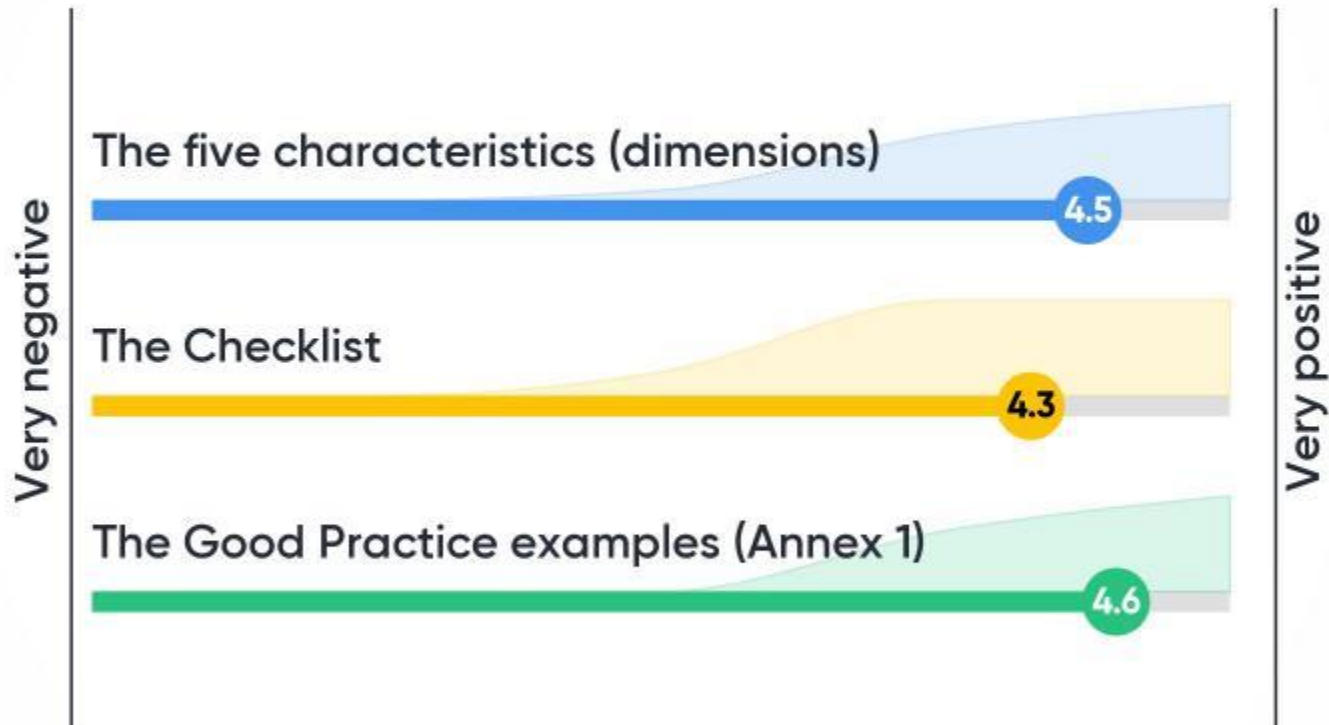
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## How do you grade our Pedagogical Model?



# Phases for Learners

Oh, DEAR! Model:

Iterative cycles:

- **D**iscover
- **E**xplore
- **A**pply
- **R**eflect



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# Phases for Teachers

Oh, DEAR! Model:


Iterative cycles:

- **D**esign
- **E**xperiment
- **A**nalyse
- **R**ethink



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Learn STEM: Pedagogical innovations for STEM  
education 





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## Learn STEM Online Course:

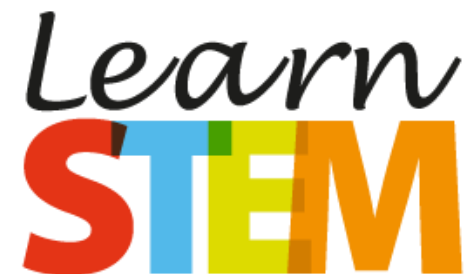
**4 weeks plus intro** (started 12th of March 2020)

[www.competencedevelopment.eu](http://www.competencedevelopment.eu)

**> 600 online learners**

**Great discussions!**

[www.Learn-STEM.org](http://www.Learn-STEM.org)



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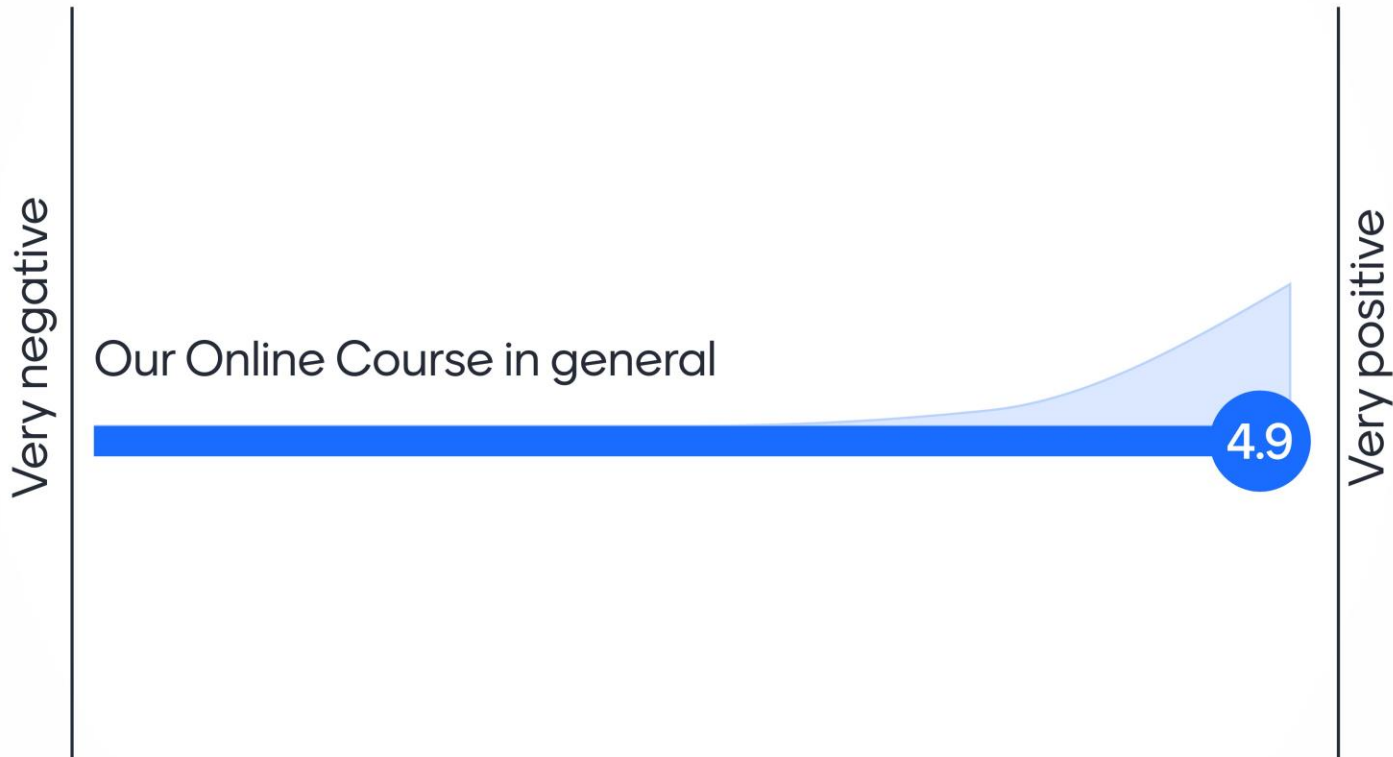
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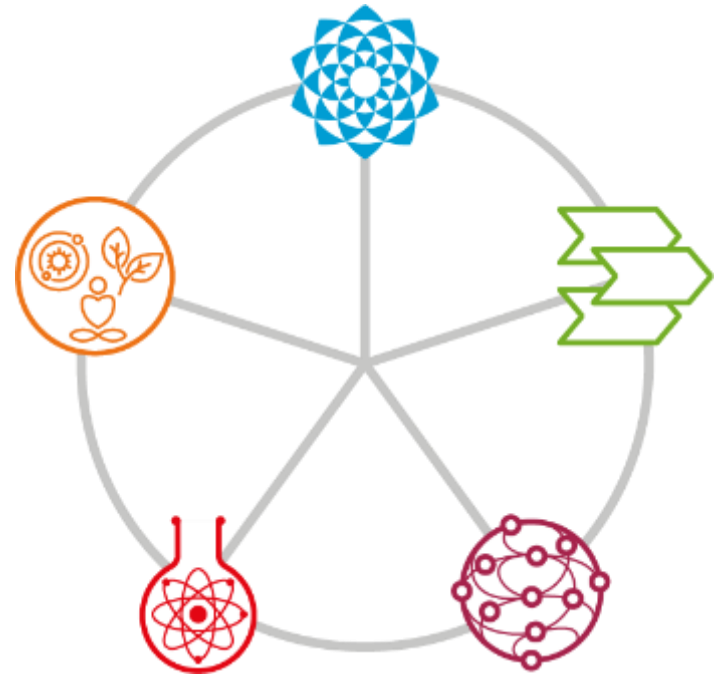
Mentimeter

# How do you grade our Online Course today?



# (Y)OUR STEM Education

Have you uploaded  
and shared your  
own good practice  
examples and cases  
for STEM innovations?

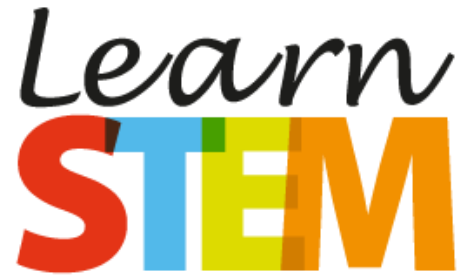


Free & open up- & download  
in our Online Course folders



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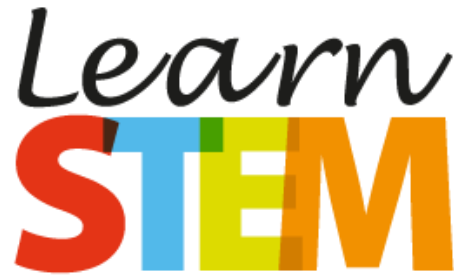
# The end of Learn STEM?



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# The end of Learn STEM?



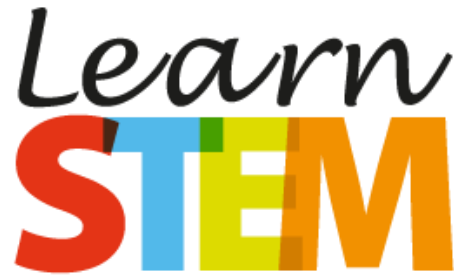
**No:**

**Just the beginning!**

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# Outlook for the future



**1. Our survey**

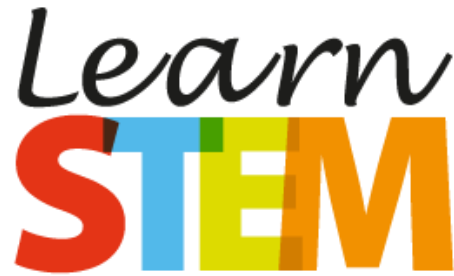
**2. Our guide collection:**

**"How to start online learning"!**

[www.Learn-STEM.org](http://www.Learn-STEM.org)



# Outlook for the future



**And most important:  
Our future collaboration!**

[www.Learn-STEM.org](http://www.Learn-STEM.org)



# Let us collaborate!



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# Let us cooperate!



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