Grasple

from Grapple = *struggle*
to Grasp = *understand*

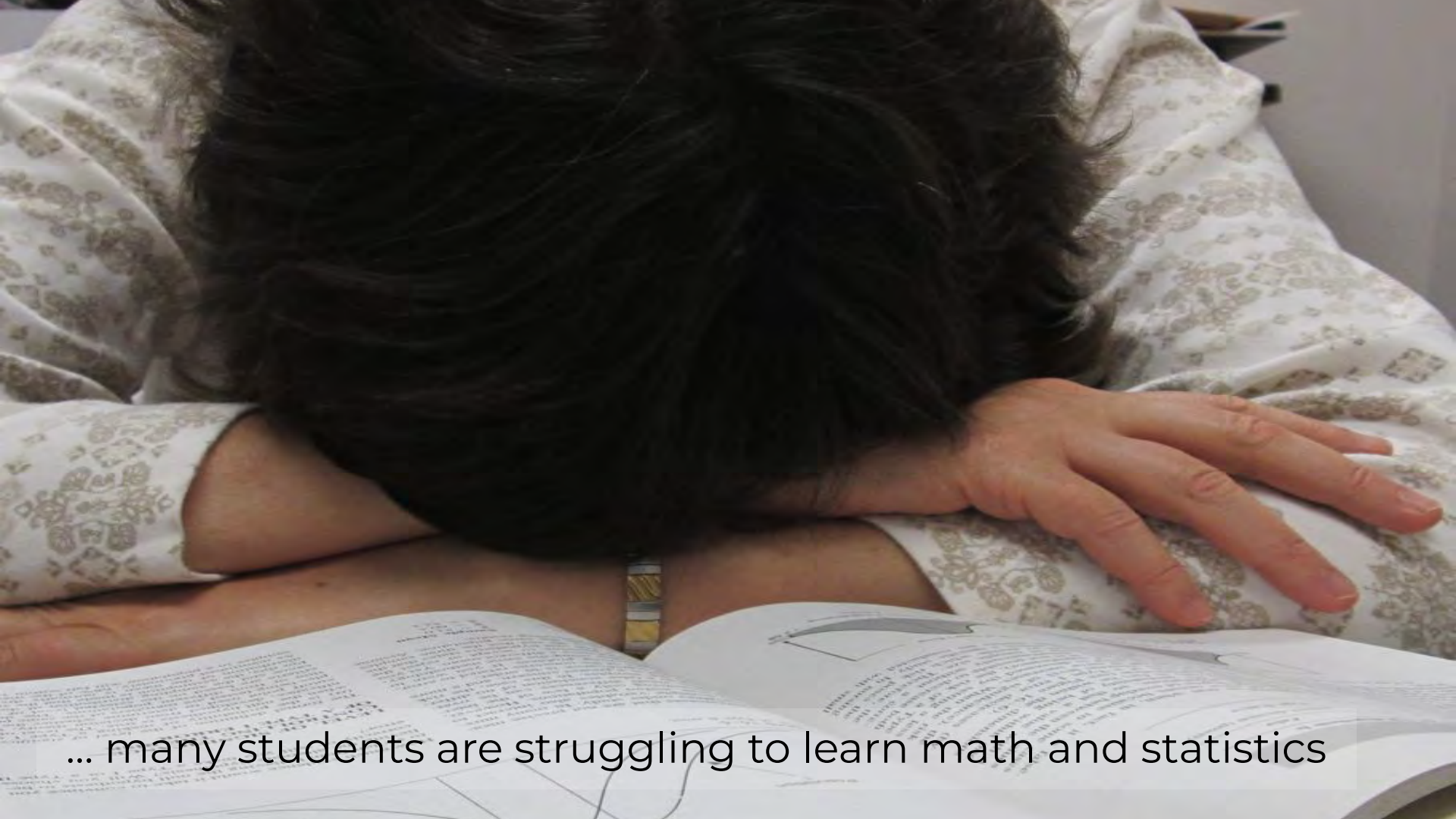
Open Education GLOBAL
award winner

OPEN EDUCATION CONSORTIUM
The Global Network for Open Education

openstax AN OPENSTAX ALLY

www.Grasple.com

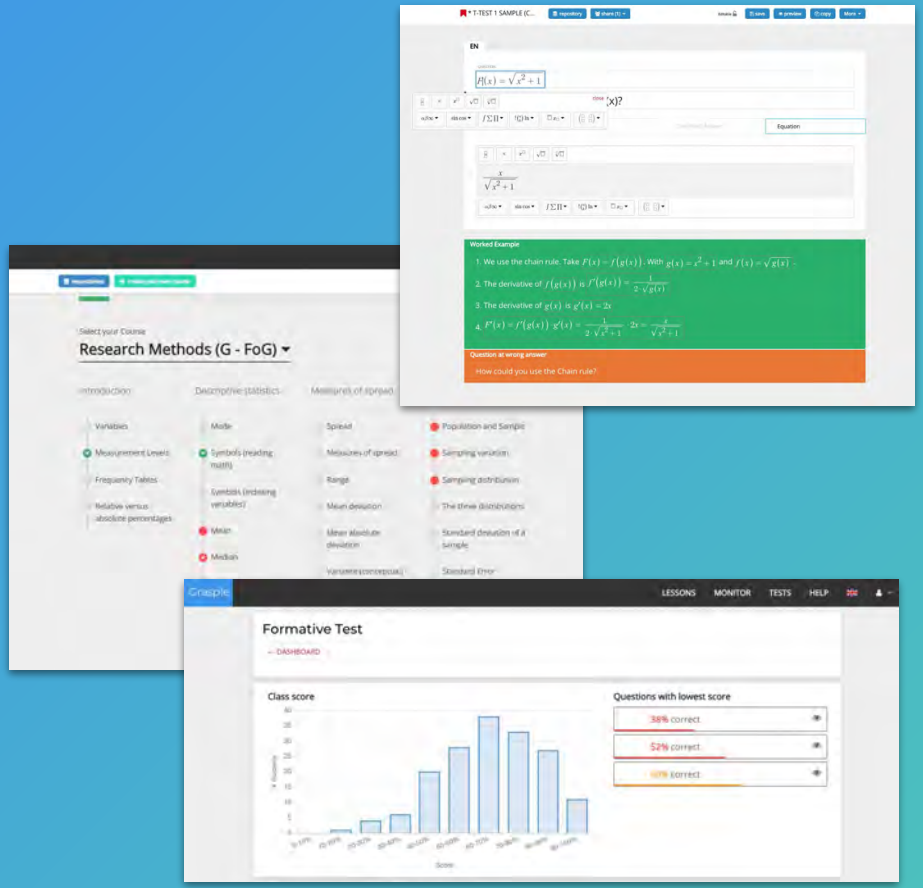
understanding **numbers** and **data** is vital ...



... many students are struggling to learn math and statistics

Making **knowledge** about math and statistics **openly accessible and understandable** for everyone

Practice & Assess - Math/STEM courses



search edit integrate

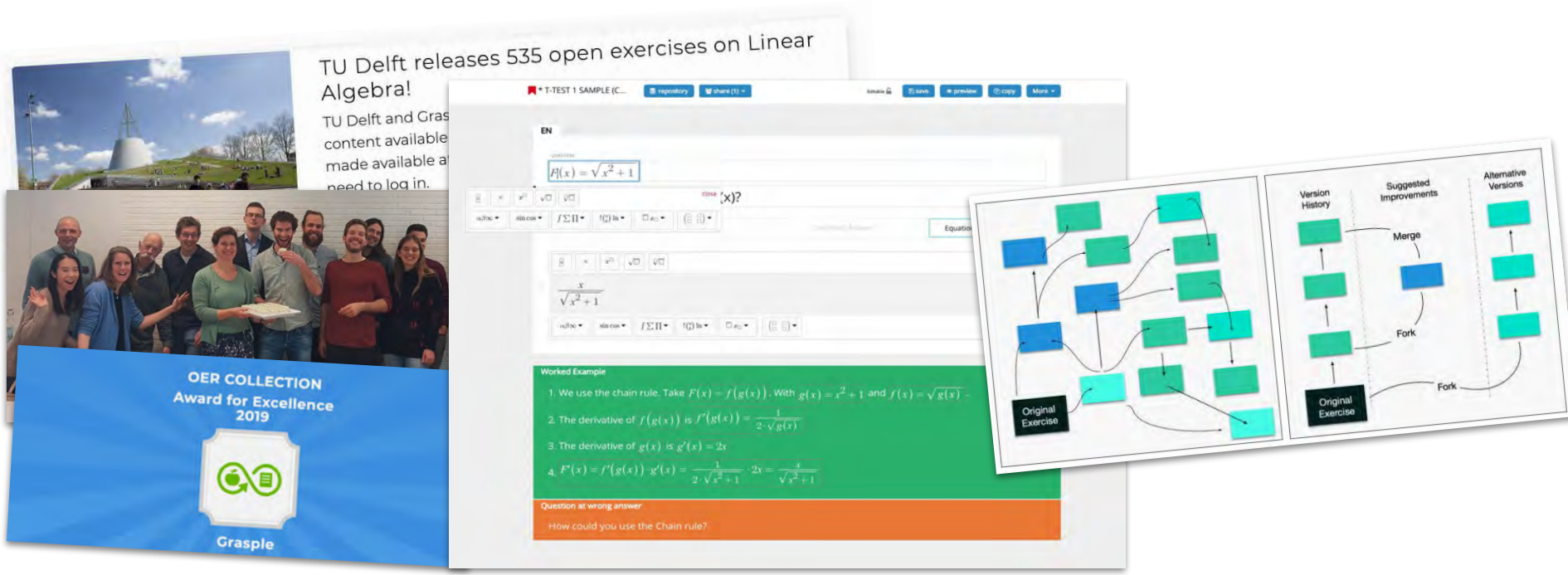
Collaborate on **exercises**

practice

Active and **personal** studying for students

Useful insights for teachers

Unique: **Open Collaboration**



International
Community

Easy to use
Editor

Innovative
Version Control

68 million answers

by 94.000+ students

Universiteit Utrecht

UNIVERSITY OF TWENTE.

DE HAAGSE HOGESCHOOL

TU Delft

VU VRIJE UNIVERSITEIT AMSTERDAM

Erasmus Universiteit Rotterdam

Universiteit van Amsterdam

Hogeschool van Amsterdam

Why **adaptive learning** in Grasple?

Why adaptive learning in Grasple?

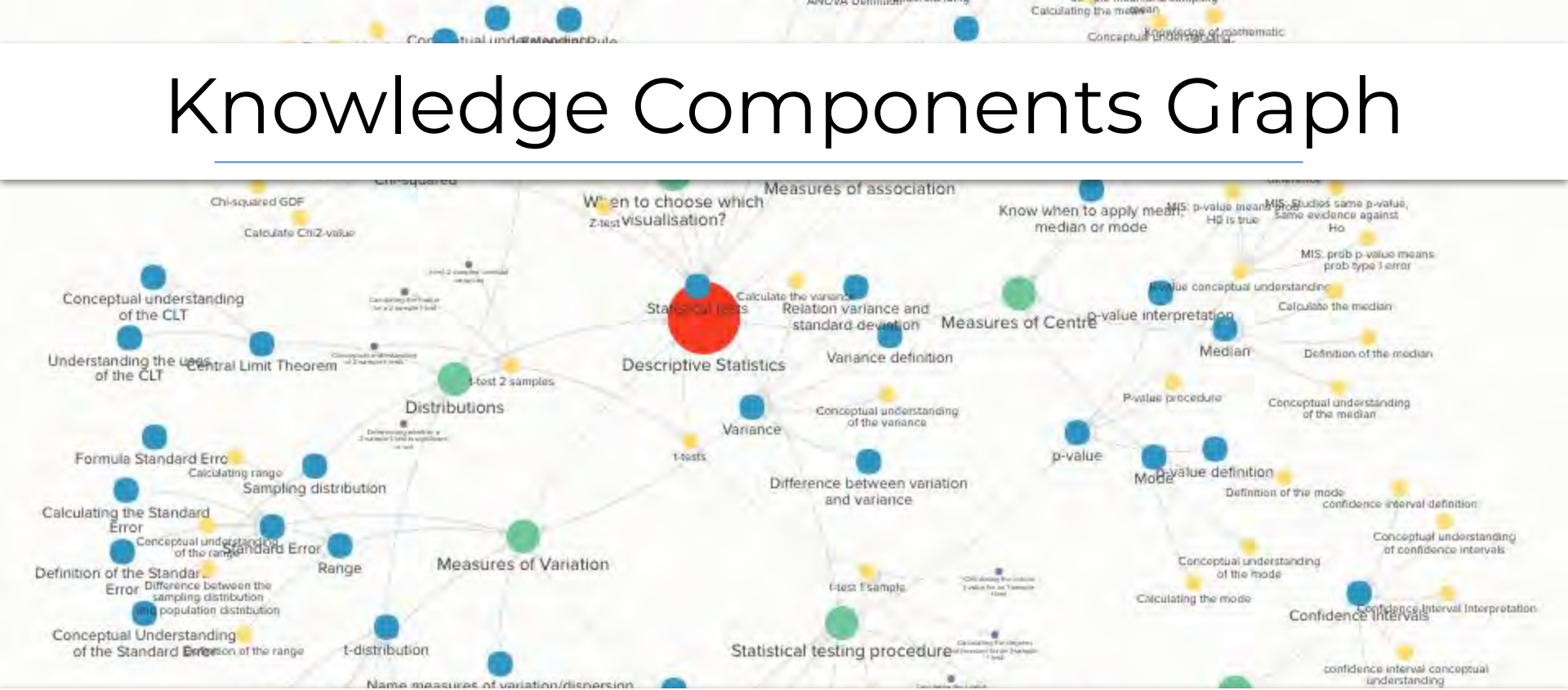
Accessibility to knowledge:

help learners to find their

personal learning path

Adaptive learning
in Grasple

Knowledge Components Graph



Insights and advices by estimating a users **mastery on knowledge components**

Leveraging a KC Graph

Subjects and learning goals

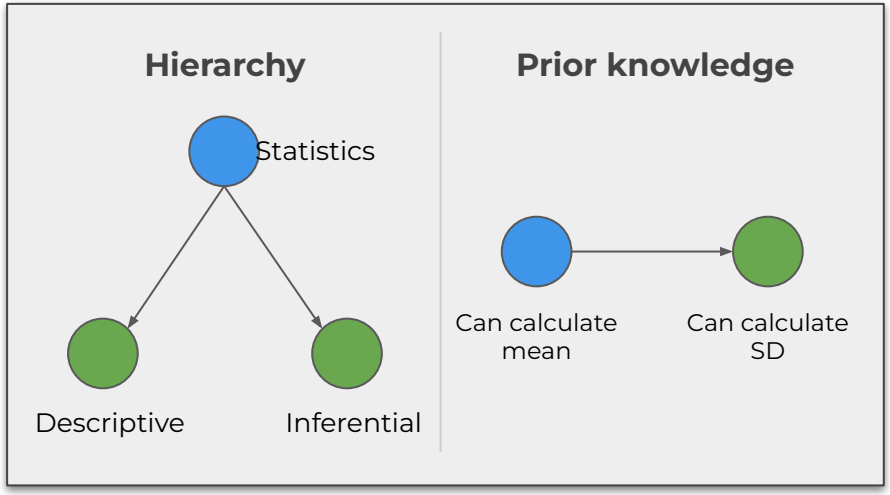
connected in a graph via two relations

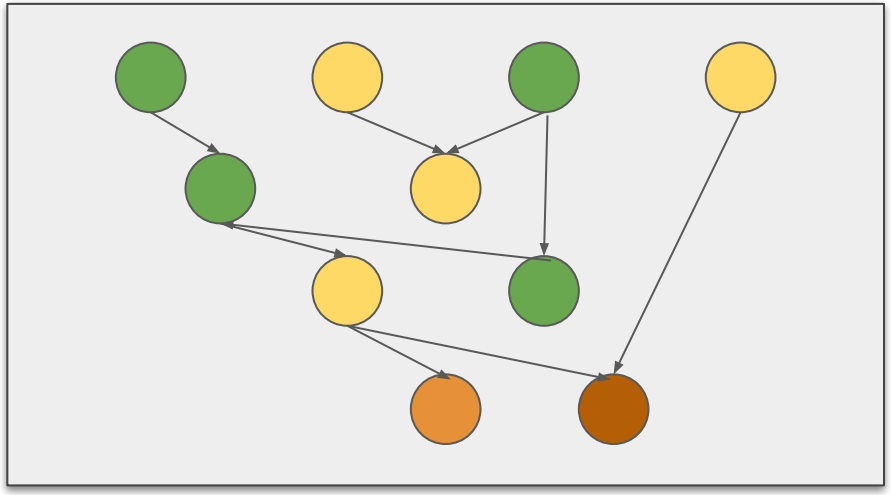
hierarchy and prior knowledge.

Estimating mastery per KC

by using the relationships to

find the knowledge gap



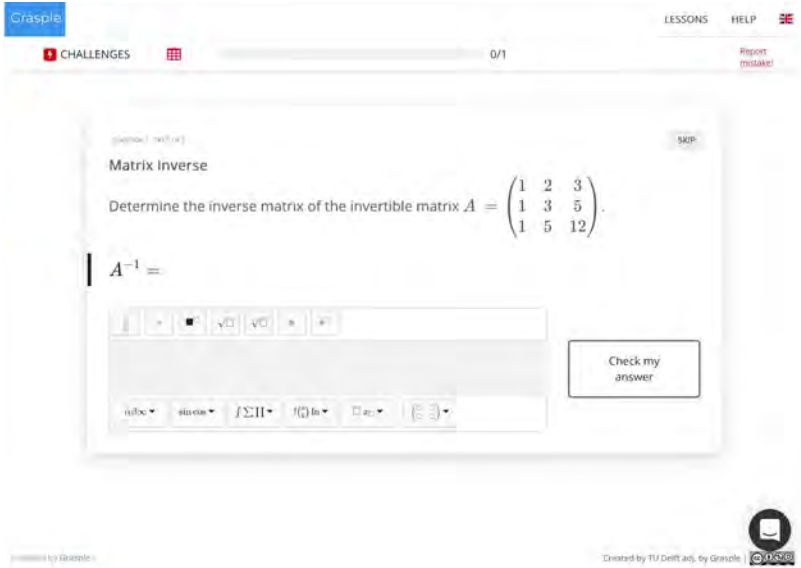


Adaptive Assessment

Use adaptive (intake) tests

with 20 - 30 questions

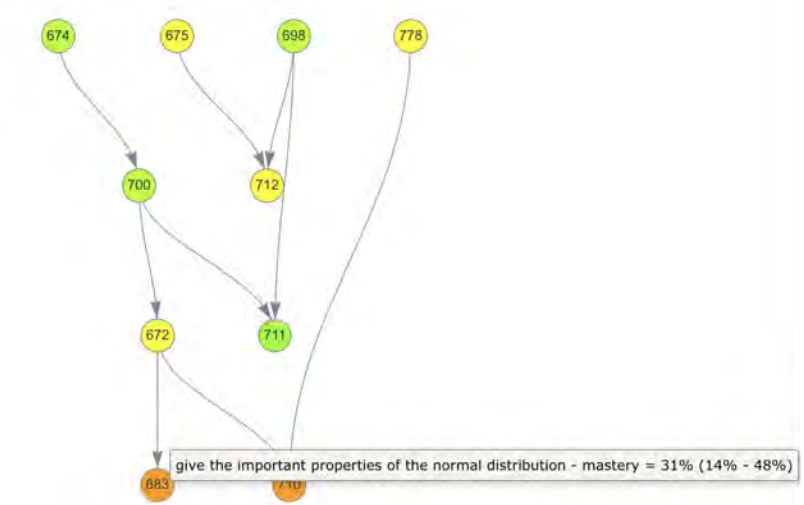
maximize insights in student's mastery



Continuously update KC masteries

to use in

selecting next question

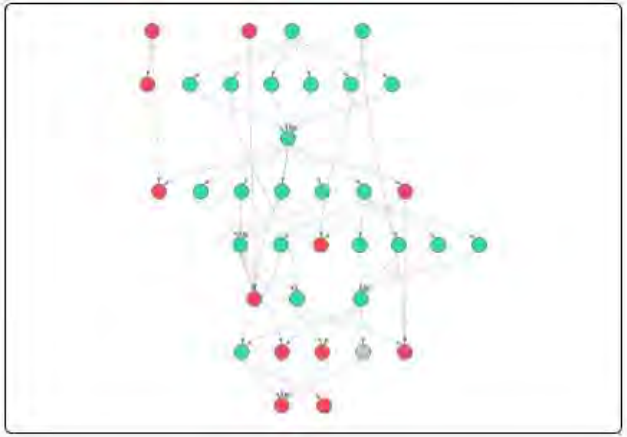


Insights on mastery per KC

You have completed this test!

We estimate your mastery as follows:

- You master 64%
- You somewhat master 0%
- You don't master 33%
- We can't estimate your mastery for 3%

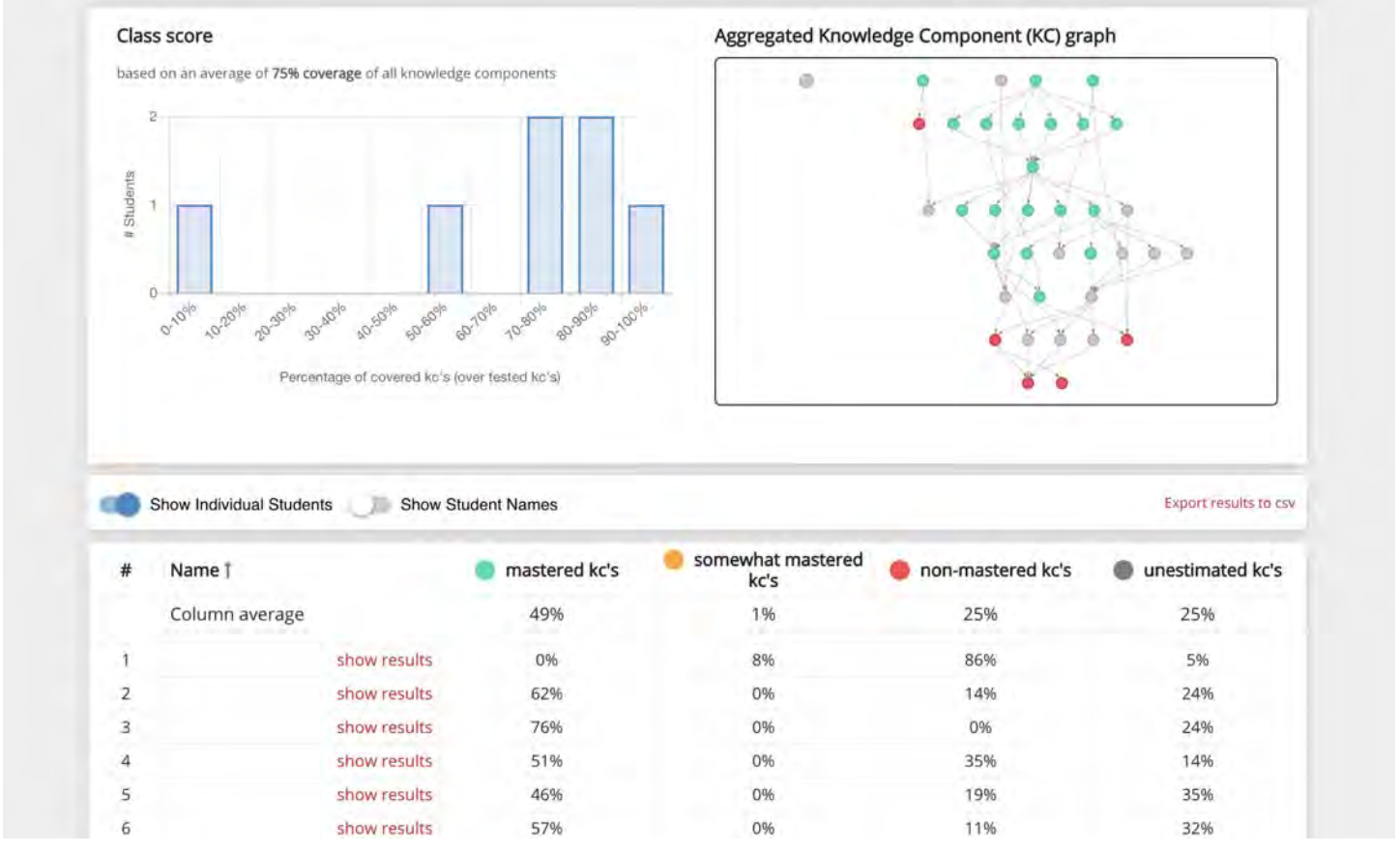


We recommend you to start with the following subject:

- **The Tangent Line and the Derivative (Video)** - your mastery is between 21% and 55%

Advice on focus areas in a Course

Insights for teacher



#	Name		mastered kc's	somewhat mastered kc's	non-mastered kc's	unestimated kc's
	Column average		49%	1%	25%	25%
1		show results	0%	8%	86%	5%
2		show results	62%	0%	14%	24%
3		show results	76%	0%	0%	24%
4		show results	51%	0%	35%	14%
5		show results	46%	0%	19%	35%
6		show results	57%	0%	11%	32%

Autonomy

Teacher

Teacher’s Autonomy

1. Make things **easy**
2. Let the teacher be **in control**

Teacher’s Autonomy

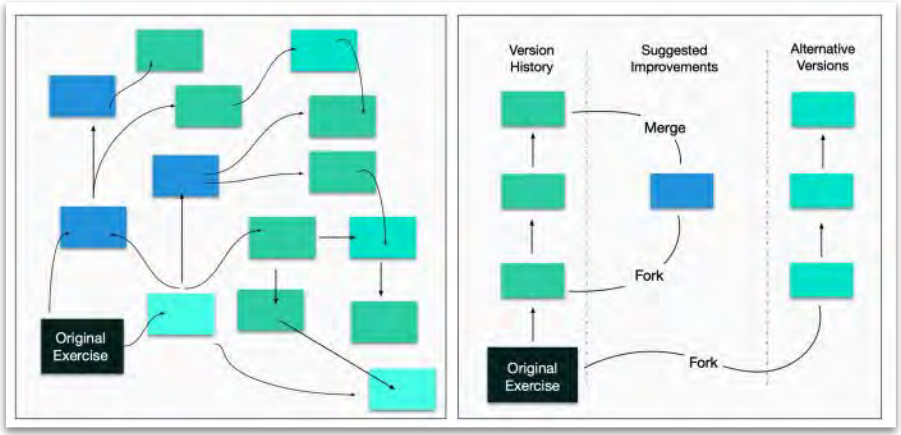
Adaptive Learning
&
Open Education

Autonomy & Open Education

Re-use **open educational resources**

without fear of losing control using our

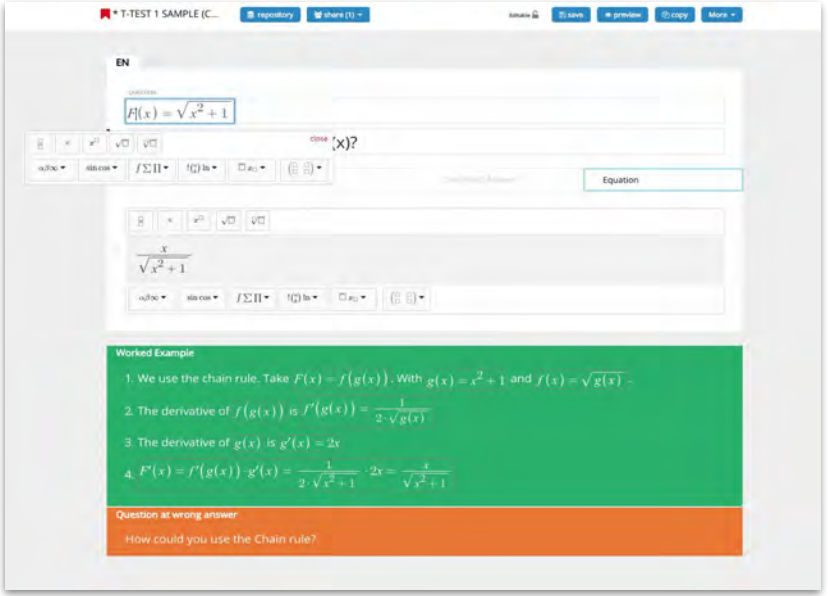
version control system



Edit everything

using the

user friendly content editor



Open education

facilitates teachers their autonomy

(in adaptive learning)

Teacher’s Autonomy

What is your **biggest fear** when using **adaptive learning**?

(concerning the teacher’s autonomy)

Student

Student's Autonomy

1. Give **transparent insights & advices**
2. Give the **student ownership**

When should the **student** (not) have **autonomy**?

(when using adaptive learning)

Adaptive learning & Open education

What **benefits & challenges** do you see in using **open education** together with **adaptive learning**?

Together we can!

make **education**
more **accessible**
and more **personal**
for **everyone**

Student Autonomie

Wanneer zou de **student** wel/niet **autonomie** moeten hebben?

(tijdens het gebruik van adaptief leren)

Docent Autonomie

Wat is je **grootste zorg** bij het gebruiken van **adaptief leren**?

(met betrekking tot de autonomie van de docent)