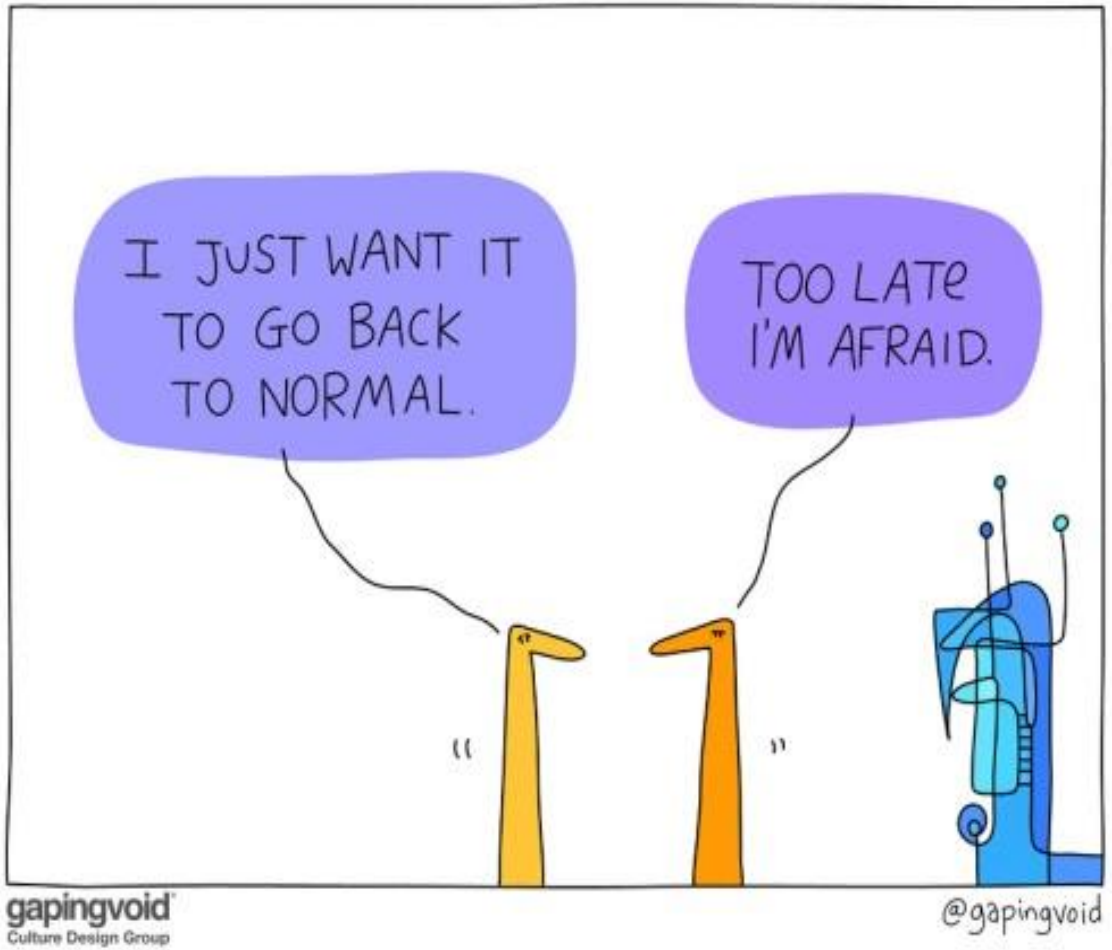
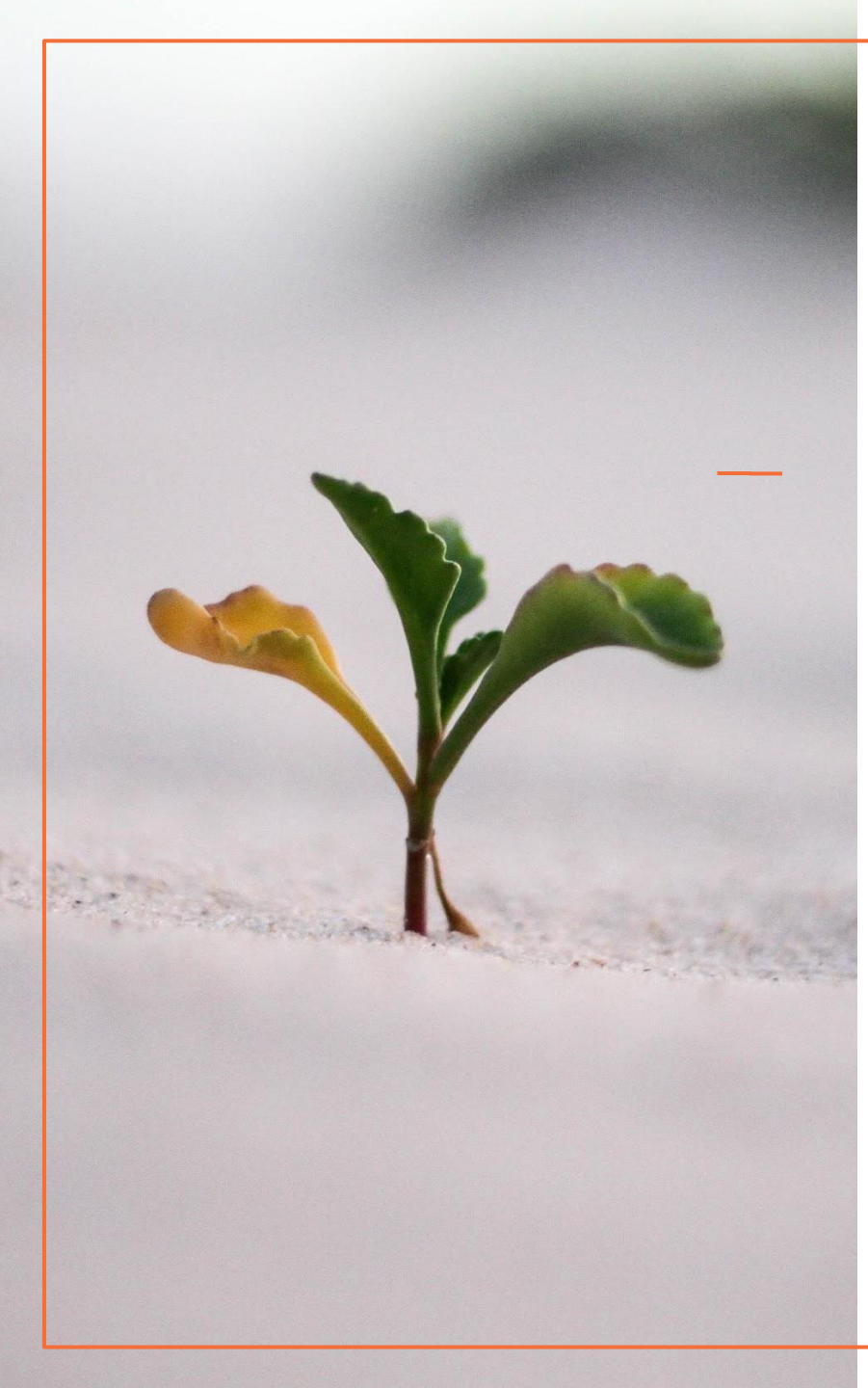


"You can hear a lot by listening."

- Yogi Berra (funny but insightful)



EntrePed2022

Entrepreneurship Development: What Can We Do?

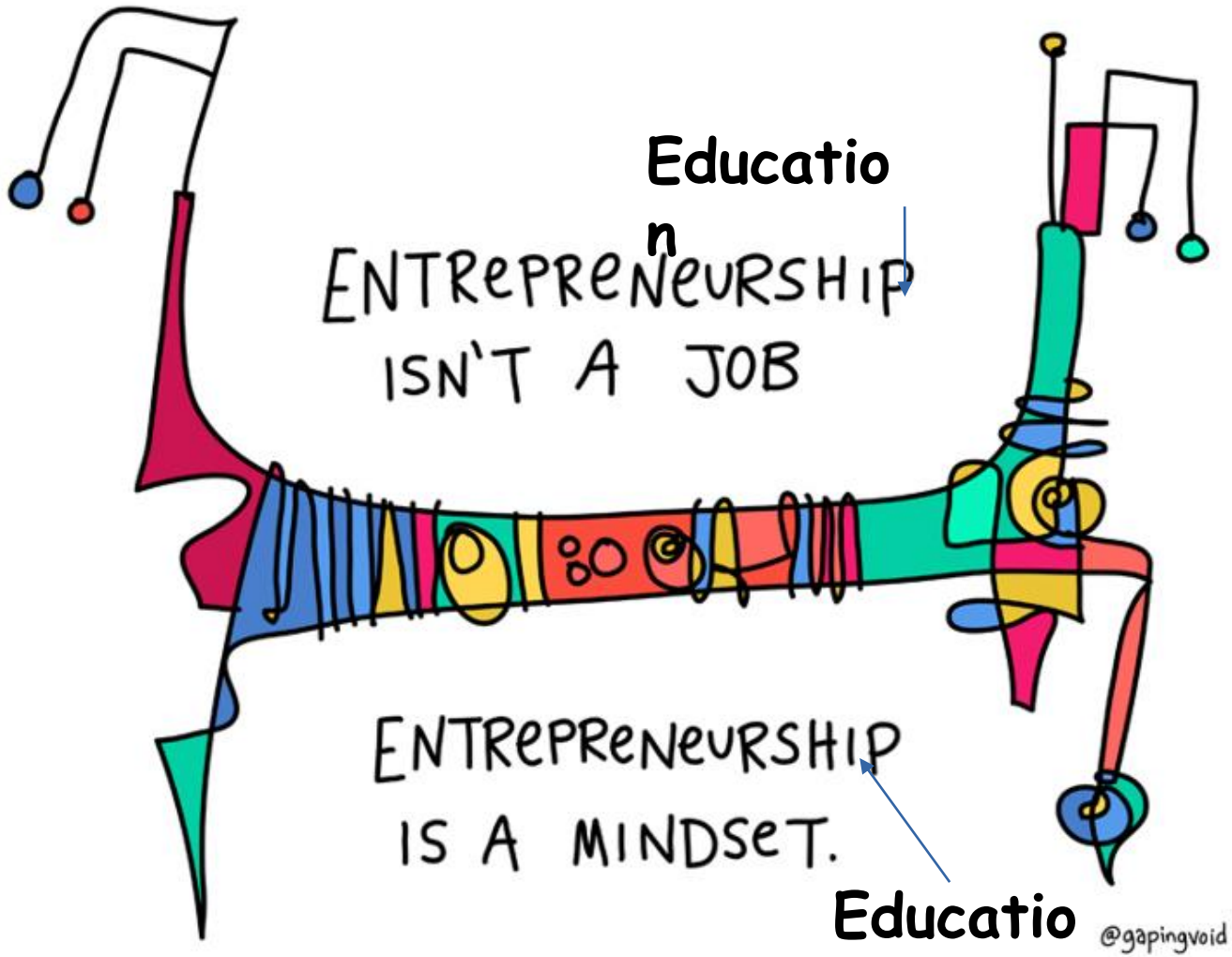
Norris Krueger, PhD

Active Learning and Pedagogy of Entrepreneurship

University of Macedonia June 2022

Even better context?

Are we as smart as Welsh primary students?


Educatio
n
ENTREPRENEURSHIP
ISN'T A JOB
ENTREPRENEURSHIP
IS A MINDSET.
Educatio
n
@gapingvoid

Key Questions for Today

1) What are we trying to change?

2) How do we know?

3) How does that influence how we design programs?

4) How does that influence how we deliver programs?

Lessons from HE Innovate / Entrepreneurship360

Key ingredients for primary/secondary (K-12)

[& why it matters to us and our unfair edge?]

- Deep co-immersion with entrep community
- Student-led, **student DESIGNED**
- Rigorous, regular **evaluation** [unfair edge? EPIC!]
- **Professional educator**(s) leading [unfair edge? forthcoming Renegades MOOC!]

What do we owe entrepreneurial learners?

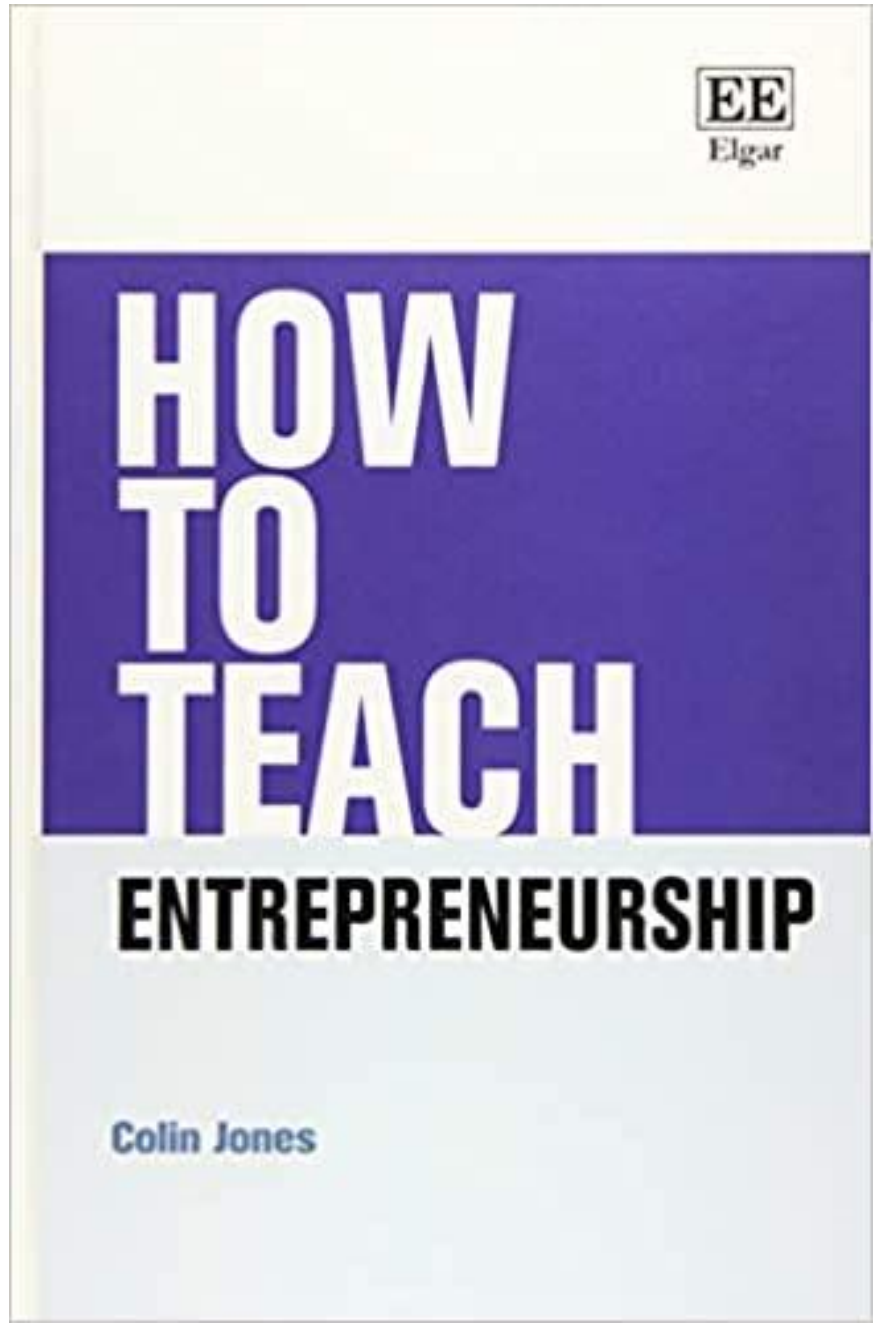
The BEST!

- The Best Pedagogies
- The Best Educators
- The Best Settings
- The Best Entrepreneur Education Ecosystems
- The Best Research
- The Best Assessment (#EPIC ftw)

Details at https://bit.ly/2021EntEdManifesto

Best Pedagogies & Best Educators

- NOT independent – need both
- adult/community ed vs higher ed
- Curate entrepreneurial master class
- Dutch BKO, now UK


EE
Elgar
HOW TO TEACH
ENTREPRENEURSHIP
Colin Jones

Best Settings & Entrep Ed Ecosystems

- **Virtuous cycle:**
  - Great entrepreneurial ecosystems offer ample opportunities for great entrep learning;

  great entrep learning grow ecosystems

- **Again, curate >>> create**

- **Nurture the hidden entrep ed ecosystem**

Best Research & Best Assessment

- **Impact research is awful, but understandable*****
- **Assessment is imperative (not just AACSB)**
- **Curate >>> create**
- **EPIC (and EntreComp)** www.heinnovate.eu

***** HUGE RESEARCH OPPORTUNITIES!**

1) Full ICSB manifesto (Global Edu Report, join ICSB for full GER) https://bit.ly/2021EntEdManifesto [work in progress – comments/ideas welcome!]

2) Andy Penaluna: "An Education System Fit for an Entrepreneur"

https://www.academia.edu/7524065/An_Education_System_fit_for_an_Entrepreneur

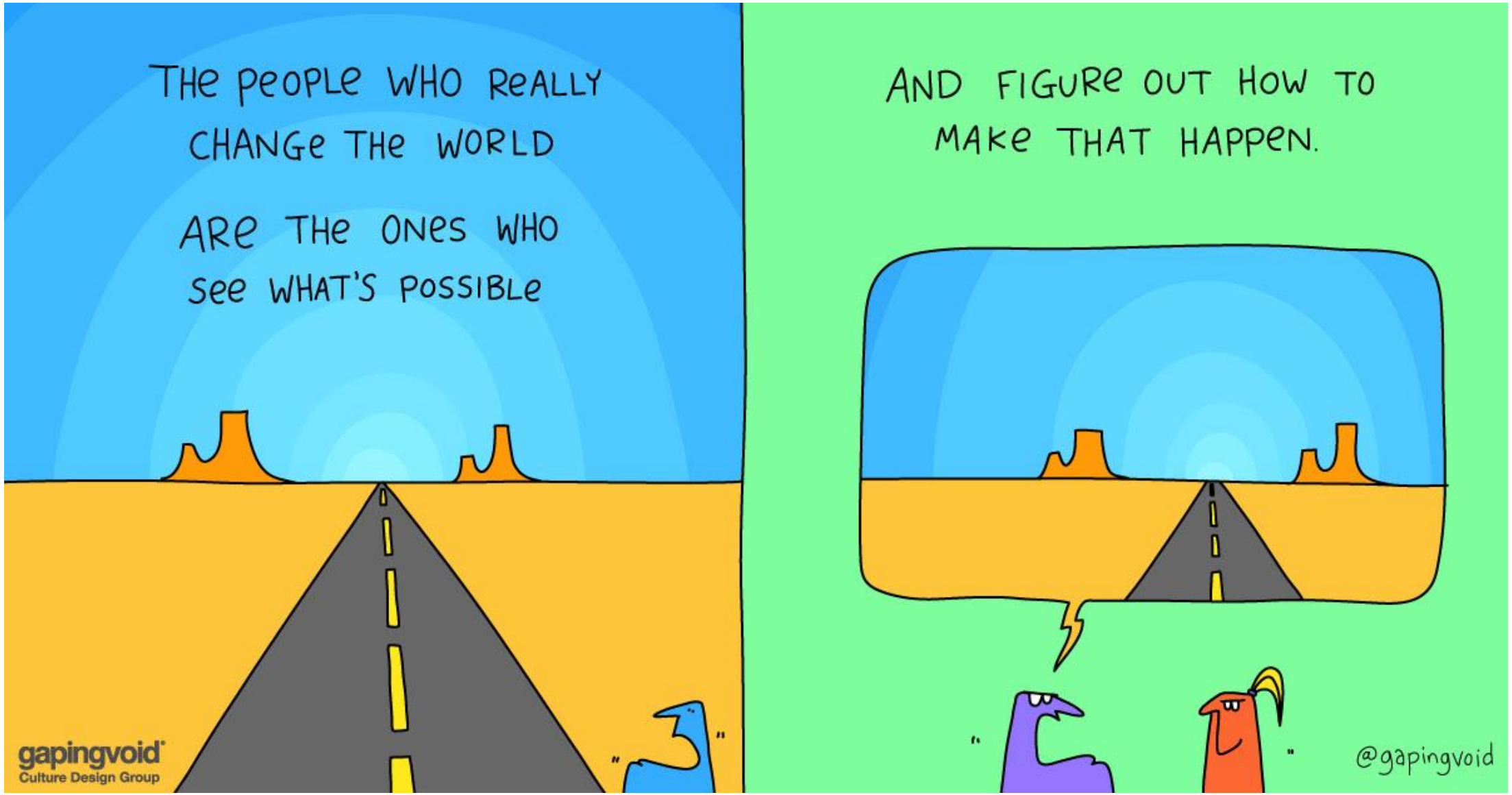
e) Entrepreneurship360/HE Innovate white papers:

http://www.oecd.org/cfe/leed/Entrepreneurial-Education-Practice-pt1.pdf
http://www.oecd.org/cfe/leed/Entrepreneurial-Education-Practice-pt2.pdf
https://www.oecd.org/cfe/leed/BGP_Entrepreneurship-in-Education.pdf

www.bit.ly/OECDdelta

OECD Skills Studies

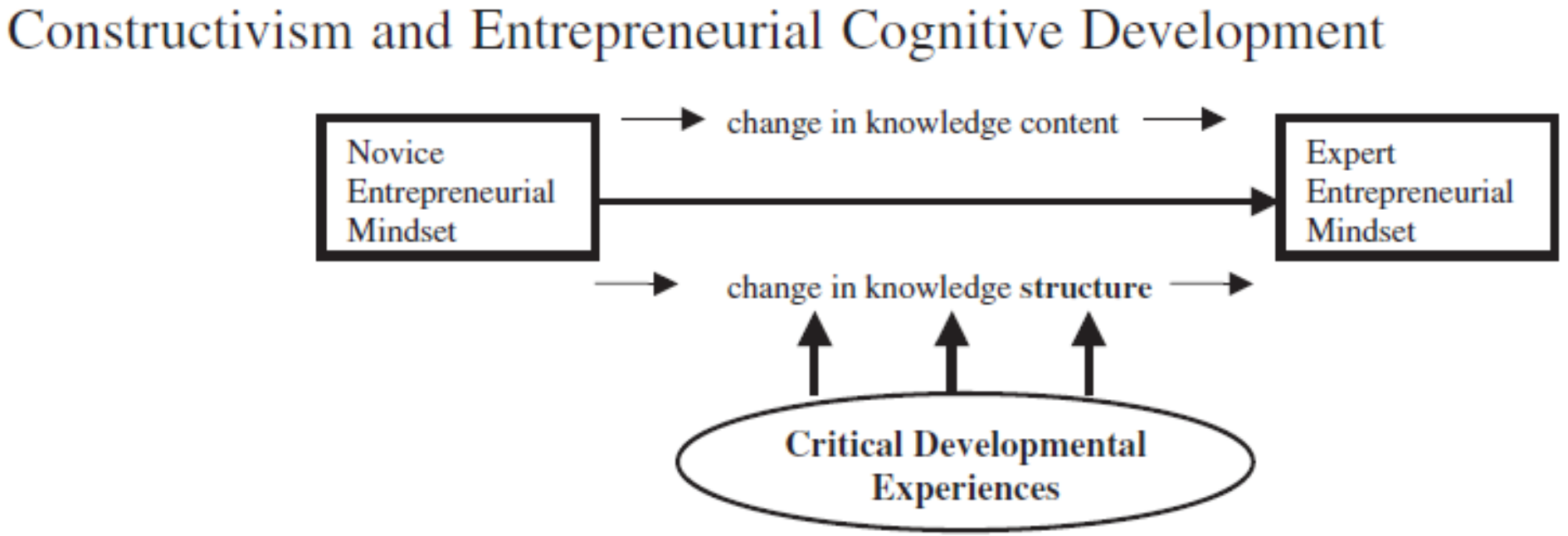
Supporting Entrepreneurship and Innovation in Higher Education in The Netherlands


THE PEOPLE WHO REALLY CHANGE THE WORLD
ARE THE ONES WHO SEE WHAT'S POSSIBLE
gapingvoid
Culture Design Group
AND FIGURE OUT HOW TO MAKE THAT HAPPEN.
@gapingvoid

First, a little theory!

Constructivistic model – from novice to expert

(chess grandmaster, anyone?)



Constructivist: http://bit.ly/ETP2007 ; neuro-entrep: http://bit.ly/KruegerWelpe ;
Mindset whitepaper: http://www.oecd.org/cfe/leed/Entrepreneurial-Education-Practice-pt1.pdf;
Moberg lit review: http://bit.ly/EPIClitrvw ; AMLE lit review http://bit.ly/AMLE_SLR

Assessing: 5 key outputs

Knowledge content

Skills

Mindset

Behaviors

External stakeholder impacts

Assessing outputs (part 1)

Knowledge content

least informative but think Ron Mitchell & scripts!

What experts know is often counterintuitive; evade the usual myths & misconceptions

Skills

best tool is EntreComp https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/entrecomp-entrepreneurship-competence-framework

Assessing outputs (part 2)

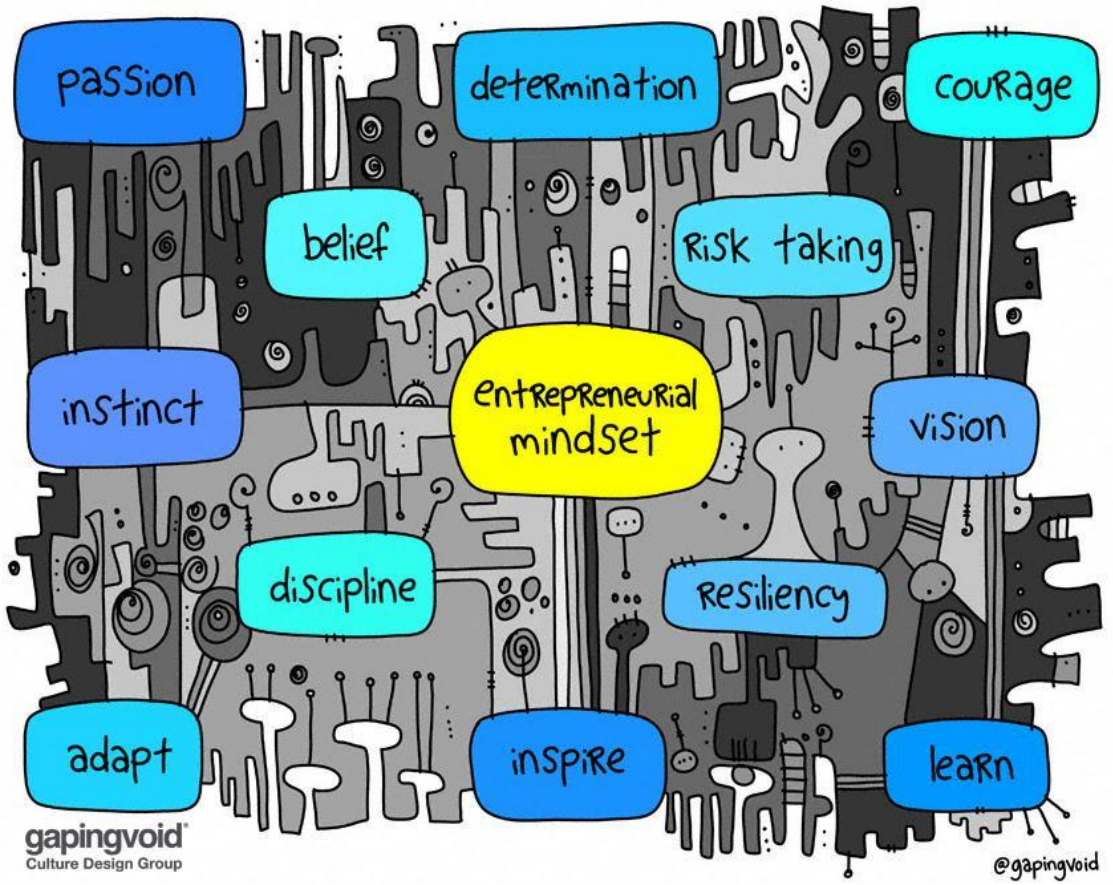
Mindset

experts manifest multiple facets of the mindset – which facets are you trying to change?

Role Identity: “Draw me a picture of an Entrepreneur!”

The Entrepreneurial Mindset

- Competing definitions
- Expert cognitions
- Facets of the mindset
- There **is** a dark side
- And…how do different cultural settings potentially matter?



Tested facets of mindset – which are you changing?

Resilience: Learned optimism

Action Orientation

EO scale (adapted for individual level)

Need for Structure <-inverse, of course

Cognitive Flexibility <-associated with dot-connecting skill

Entrepreneurial intensity

Constructive Thinking

Innovativeness & **Grit** <-these two should NOT change (good check)

Dark Triad? (What else do you want to change?)

Assessing outputs (pt 3)

Behaviors

not starting a business, intentions are perilous… but what other behaviors?

External stakeholder impacts

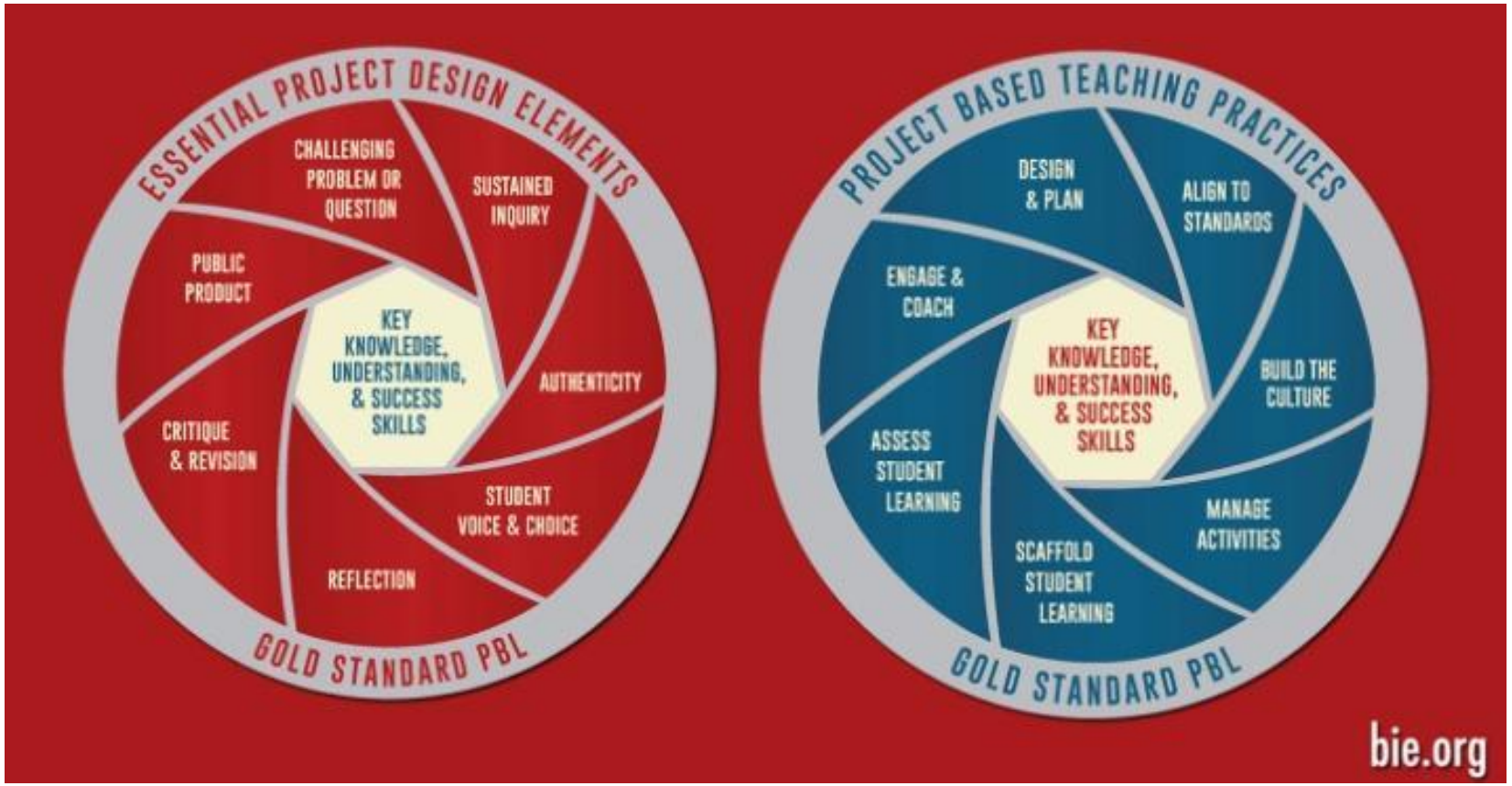
what do your stakeholders want? Ask! (spoiler alert: alumni)

Assessing inputs

What influences learning performance?

- Student
- Instructor (!)
- Pedagogy
- Assessment itself
- Context (including ecosystem)

Gold Standard Project Based Learning



(courtesy of Buck Institute of Education, www.pblworks.org)

Our Big Questions

1) What are we trying to change?

2) How do we know?

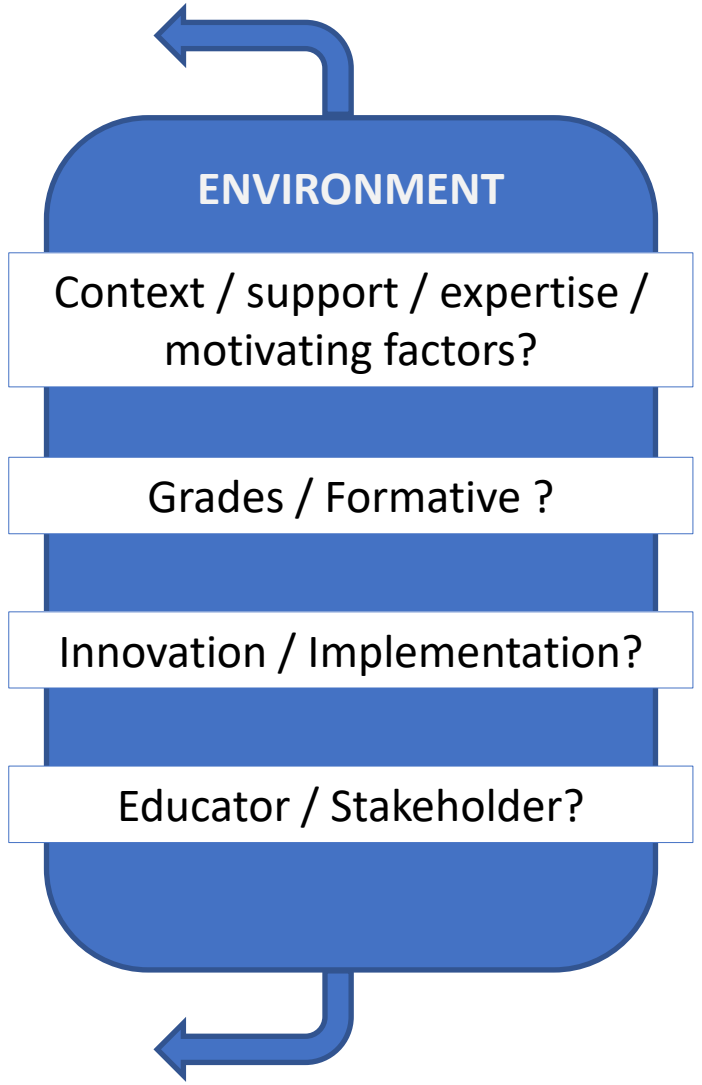
3) How does that influence how we design programs?

4) How does that influence how we deliver programs?

State of assessment for entrepreneurship education (and beyond)

What are we assessing?

Learner performance?	Educator performance?
Short, medium or long term?	Short, medium or long term?
Clear goals or general intent?	Clear goals or general intent?
Who sets criteria – subject or entrepreneurship specialist? Internal or external stakeholders?	Who sets criteria for evaluation?
	Can alumni evaluate?



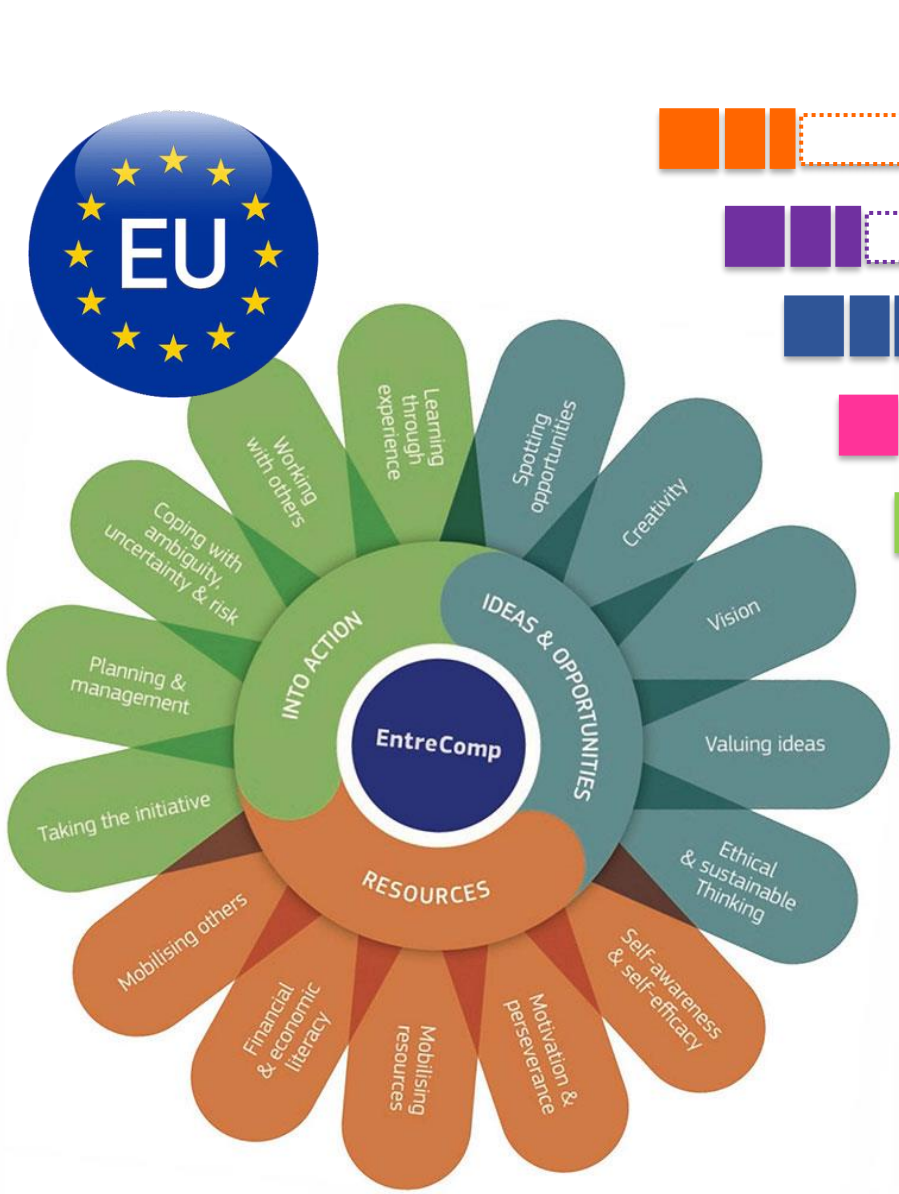
Type of Assessment?

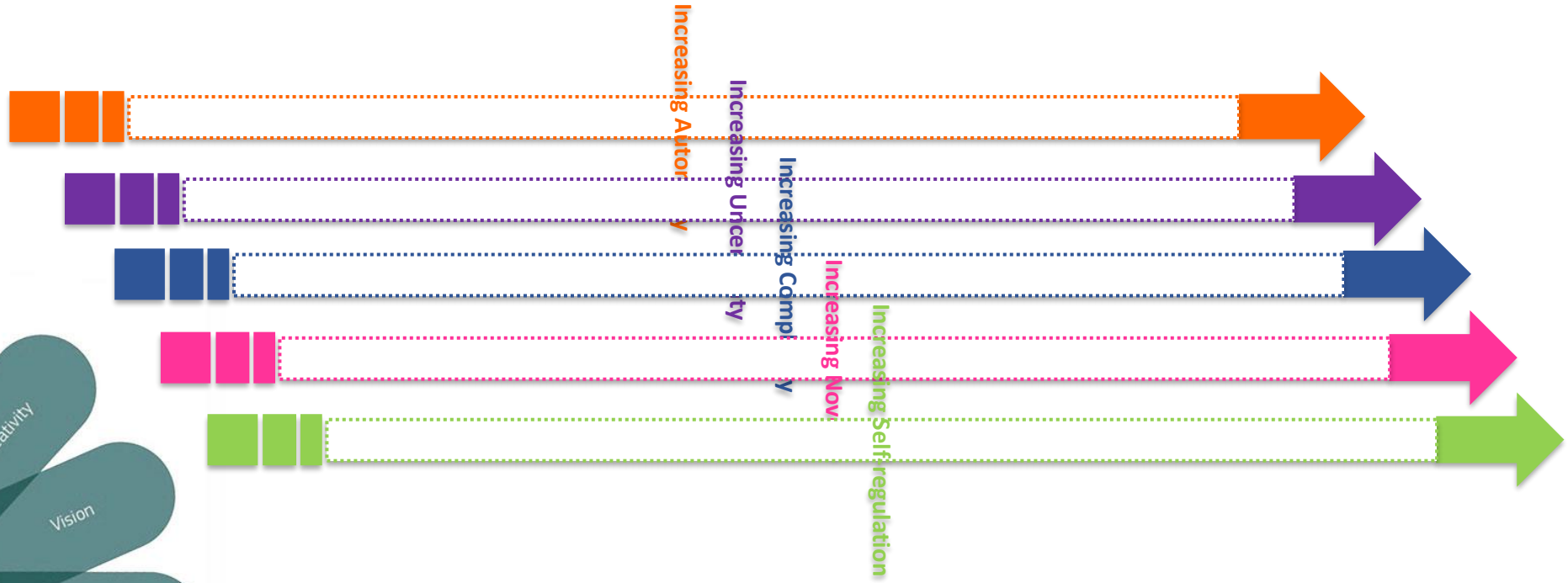
Type	Advantage	Disadvantage
Short term, e.g. end of module	Quick, clean and responds to educational requirements	Limited insights and tendency towards knowledge, not behaviour
Medium term, e.g. end of course	Meets educational summative ‘results’ criteria	Seen as an end goal in itself
Long term, e.g. 5, 10 or 20 years later	Real insights in contexts beyond education	Tracking alumni and institutional support needs resources.

Type of Assessment?

Goals	Advantage	Disadvantage
Clear goals based on definitional stances?	Good for research and measurement	Limited insights based on (educator) predicted outcomes
General aim or intent?	Allows for variance or interpretation over time	Makes measurement difficult
Subject based?	Real and very relevant to learner	Subject expertise required
Entrepreneurship based?	Specialist insights	May lack relevance to learner

FOUNDATION	INTERMEDIATE	ADVANCED	EXPERT
RELYING ON SUPPORT FROM OTHERS	BUILDING INDEPENDENCE	TAKING RESPONSIBILITY	DRIVING TRANSFORMATION, INNOVATION AND GROWTH





European Competency Framework ‘EntreComp’

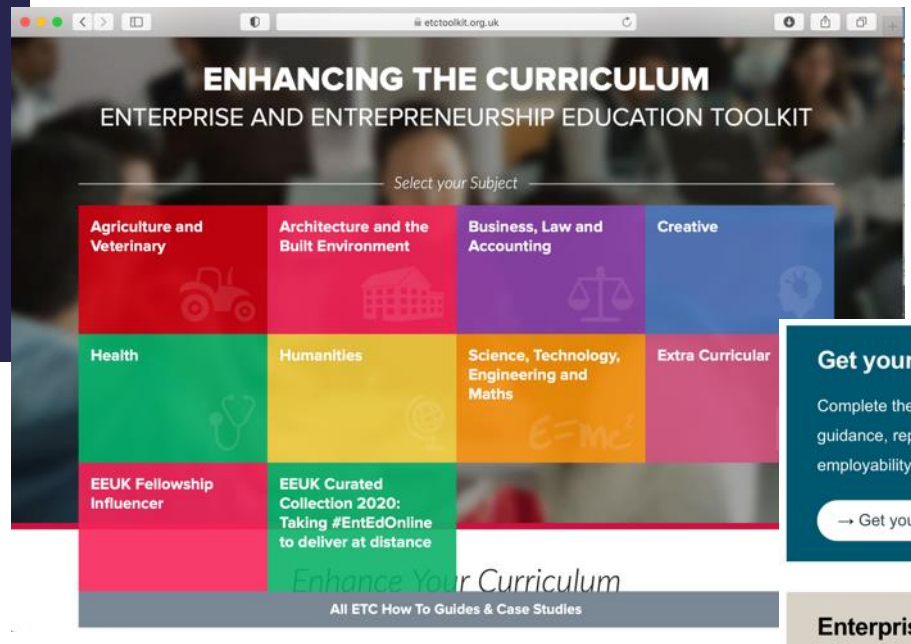
15 Competencies – development from Foundation to Expert Level

https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/entrecomp-action-get-inspired-make-it-happen-user-guide-european-entrepreneurship-competence

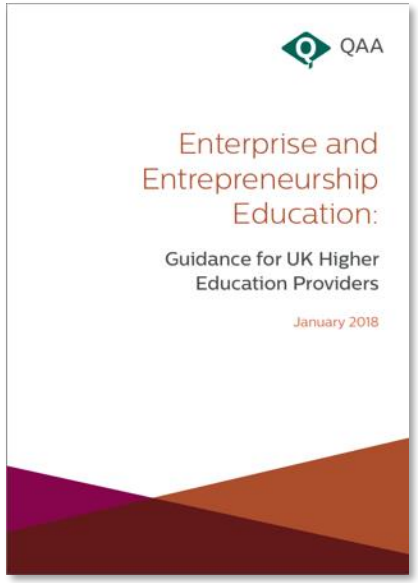
Useful UK Resources

https://www.enterprise.ac.uk

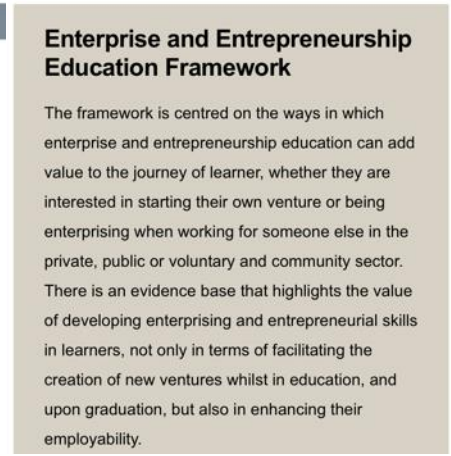
https://www.etctoolkit.org.uk

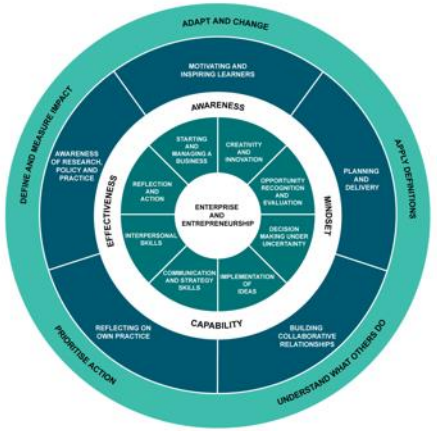


https://www.advance-he.ac.uk/guidance/teaching-and-learning/enterprise-and-entrepreneurship#framework



https://www.qaa.ac.uk/docs/qaas/enhancement-and-development/enterprise-and-entrpreneurship-education-2018.pdf?sfvrsn=15f1f981_8





HE Innovate’s new EPIC assessment tool!

- Dr. Gabi Kaffka, Utrecht

EEEPHEIC 's EPIC informal advisory board

Australia	Colin Jones		expert on adult, self-directed learning
Baltics		Inna Kozlinska	phd thesis on assessment
Bangladesh	Sabur Khan		president of large university (Daffodil)
Basque		Ana Laviada	Head of GEM project. Deeply connected
Belgium		Elin McCallum	EntreComp, Bantani
Brazil		Rose Lopes	ANGEPE
Canada		Alex Bruton	experiential ed, innovation ed
Chile		Patricia Hansen	Training program for Startup Chile
China		Jing Zhang	IEEC keynoter!
China		Mark Greeven	veteran entrep educator and researcher
Denmark	Lene Tanggaard		top researcher on educational psych
Denmark	Helle Neergaard		PACE program, veteran researcher
Dubai		Khyati Shetty	innovative innovation educator, studies female Muslim entreps
Egypt		Ashraf Sheta	premier entrep educ in Egypt
EU/Catalonia/Qatar	Marlena Aasa		European innovation Academy
Finland		Elena Ruskovaara	led 1st entrep ed assessment
Germany	Jessica di Bella		design thinking educator, former aide to Klaus Sailer
Iceland		Eythor Jonsson	accelerator expert, also at CBS
India/UK	Shai Vyakarnum		cognitive science, prog devel
Iran		Hamid Alibieki	educator & investor
Japan		Nagoya/Kyushu	program designers
Korea		Chih Hsieh	cog science & program developer
Kosovo		Alejtin Bereisha	president of a school
Macedonia	Martin Gold		leading educator in Macedonia
Mexico		Jose Ernesto Amoros	Mexico's top educator + GEM expert
Montenegro	Ivan Jovetic		researcher, investor
Netherlands	Aard Groen		researcher, program designer
Netherlands	Ruud Koopman		program designer, researcher
Netherlands	Marleen Bax		Erasmus Centre, also doing project
Oman		Sharifa Al-Baraimi	#1 entrep champion in Oman
Saudi Arabia/MENA	Tuba Terekli		top SA ecosystem maven, she is looking for the right person
Spain		Francisco Linan	top scholar in entrep ed
Spain		Clara Sastre	education/learning theory
Sweden		Martin Lackeus	champion of proper assessment
Sweden	Boo Edgar		value creation in med school
Dubai/UAE	Essam Disi		SME agency in UAE
UK		Nigel Adams	expert program developer
UN		Fiorina Mugione Bosseau	UN's interest in (UNCTAD)
Uruguay	Enrique Topolansky		accelerator developer & Uruguay's training expert
USA		Doan Winkel	thought leader and action leader in entrep ed
OECD *ex-officio*	Andrea Hofer		HE Innovate; Entrepreneurship360

EPIC

Evaluating Entrepreneurship Education Program impact in Higher Ed...
powered by ECORYS

The EPIC journey – Assessing the effect of entrepreneurship education programmes in higher education

Project: Evaluation of Entrepreneurship Education Programmes in Higher Education Institutions and Centres (EEEPHEIC)

EEEPHEIC toolkit was developed by:

Consortium team

With the help of:

Expert panel

- Pool of high-level experts to provide key expertise at critical points in the study (Norris Krueger; Dianne Welsh; Andy Penaluna)

Larger informal advisory board or 'Think Tank' of first-movers

- A network of HEIs/educators/students from around the globe

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YOUNG ENTERPRISE DENMARK
technopolis group
Funded by the European Commission

What you REALLY came for, part 2

HE Innovate’s new EPIC assessment tool!

EEEPHEIC project

- **Design of toolkit: What kind of toolkit** do entrepreneurship educators want?

  - Which entrepreneurial competences assessed (learning objectives)?

  - Which method used for the assessment of effects of programmes (qualitative/quantitative)?

Funded by the European Commission

Result: EEEPHEIC toolkit

The EPIC (**E**ntrepreneurial **P**otential and **I**nnovation **C**ompetences) toolkit contains five different assessment areas, drawing on existing as well as innovative measures:

- **Entrepreneurial competences**
- **Entrepreneurial intentions and attitudes**
- **Enterprising mindset and behaviour**
- **Entrepreneurial strategies**
- **Educational effects**

Funded by the European Commission

EEEPHEIC → EPIC toolkit

Educators can **include any one, several or all of the five assessment areas** in the student assessment

- They thus create a custom-made assessment questionnaire for their students

But wait..

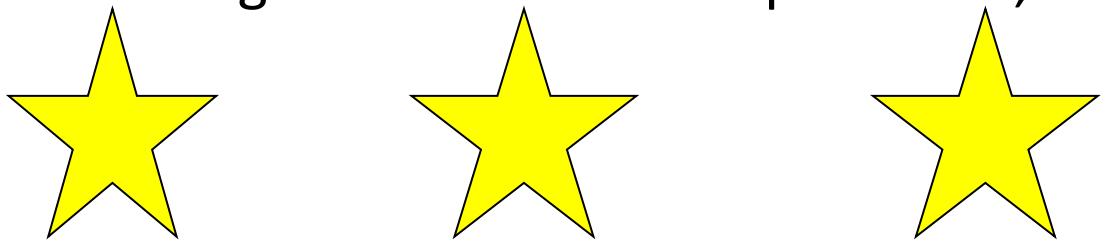
There is more!

Funded by the European Commission

EPIC toolkit

Three different focus levels in four of the five assessment areas

- Low, moderate or high focus level correspond to 1, 2 or 3 stars

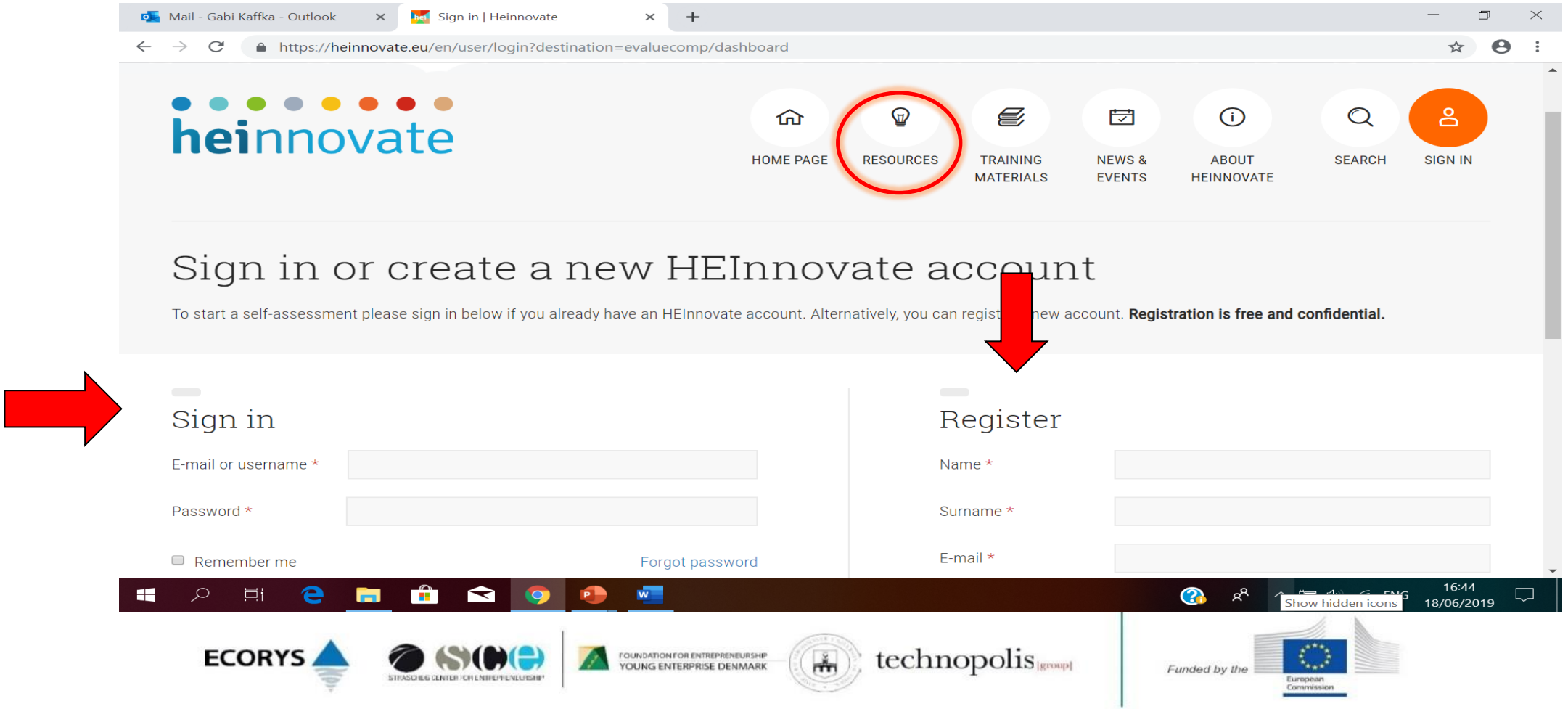


- **Adding more stars means:** more items for that assessment area added to the questionnaire
    - **Higher robustness (validity and reliability)**
    - **Longer questionnaire**

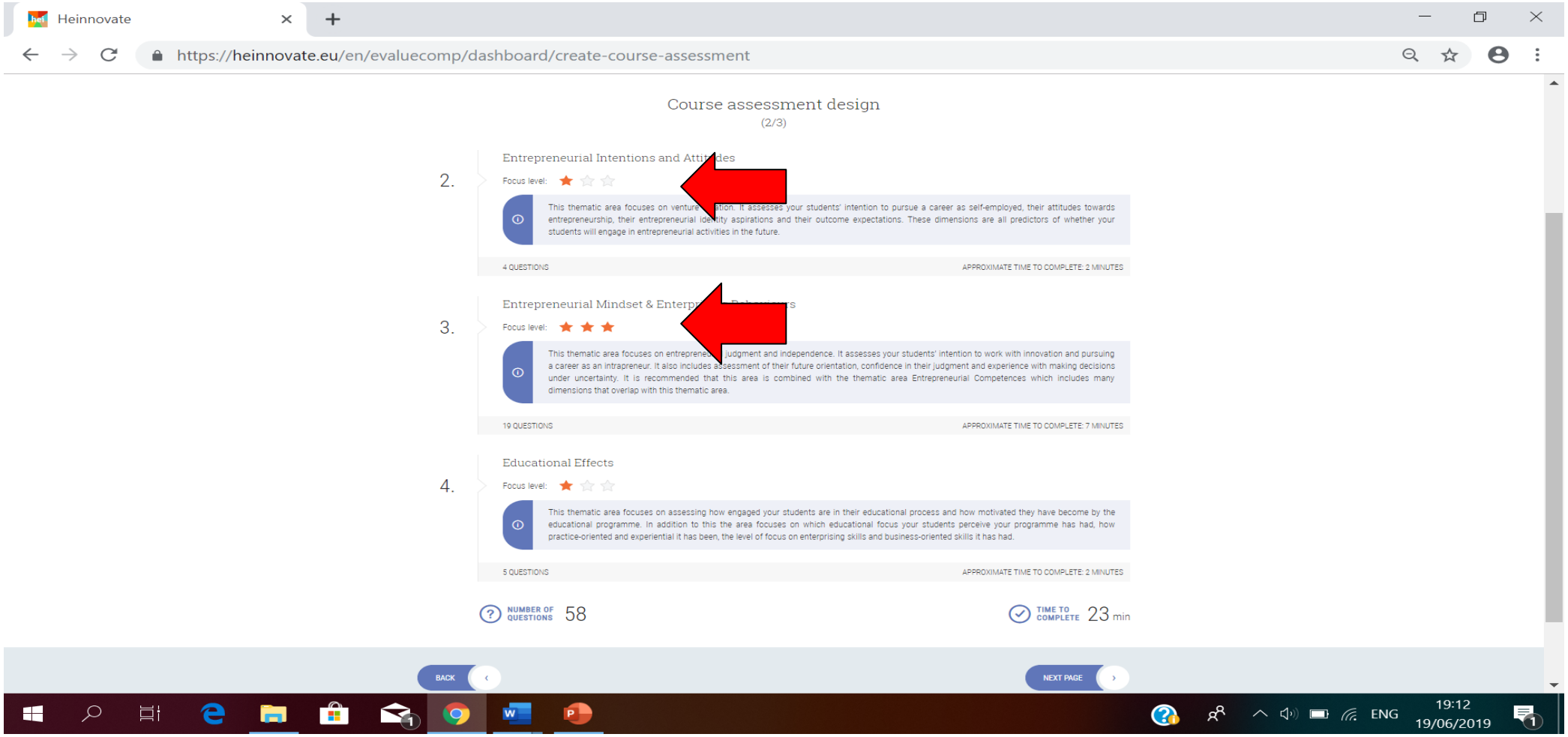
Funded by the European Commission

EEEPHEIC

EPIC is FREELY accessible via HEInnovate.eu:



EPIC



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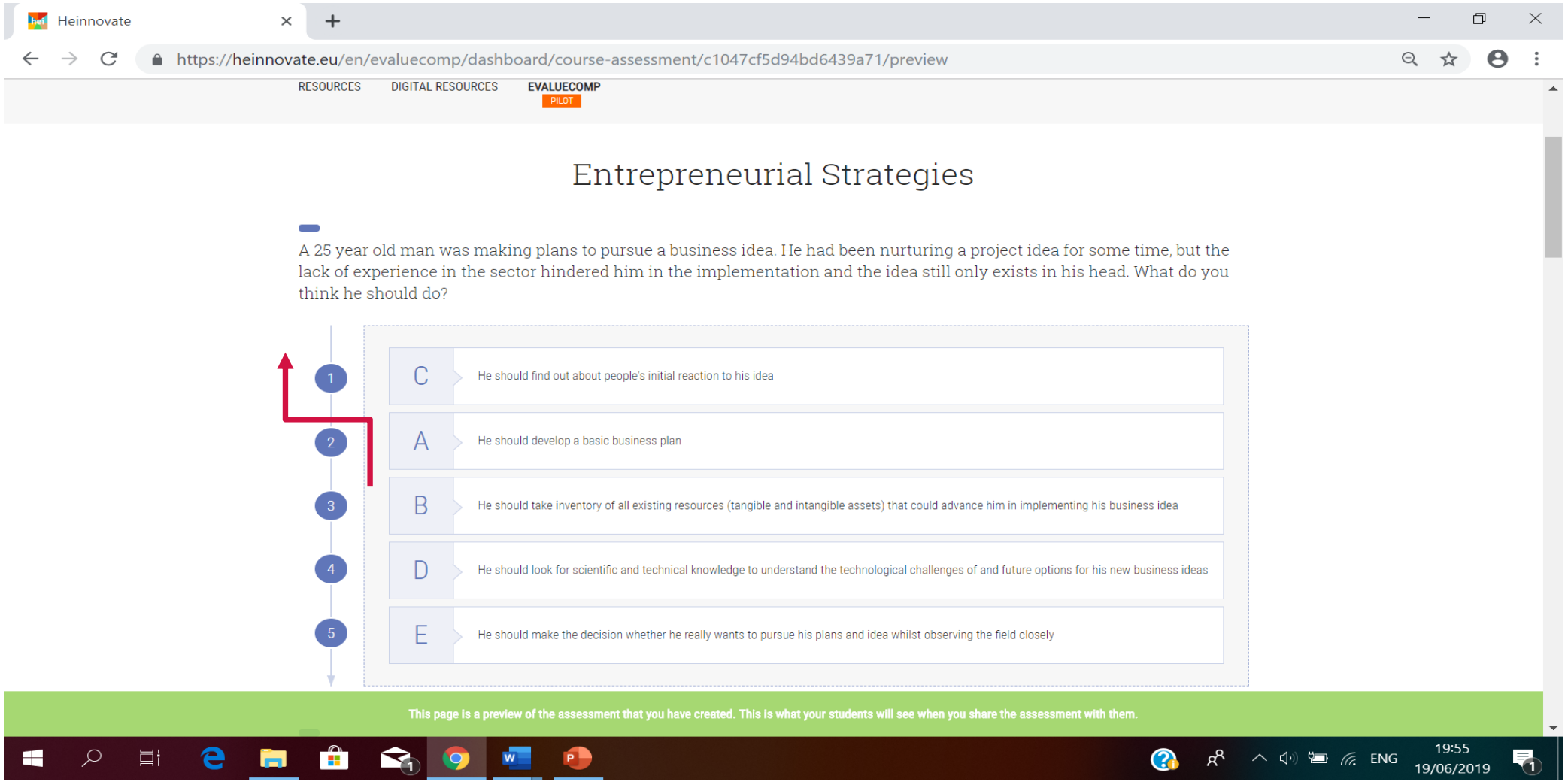
EPIC



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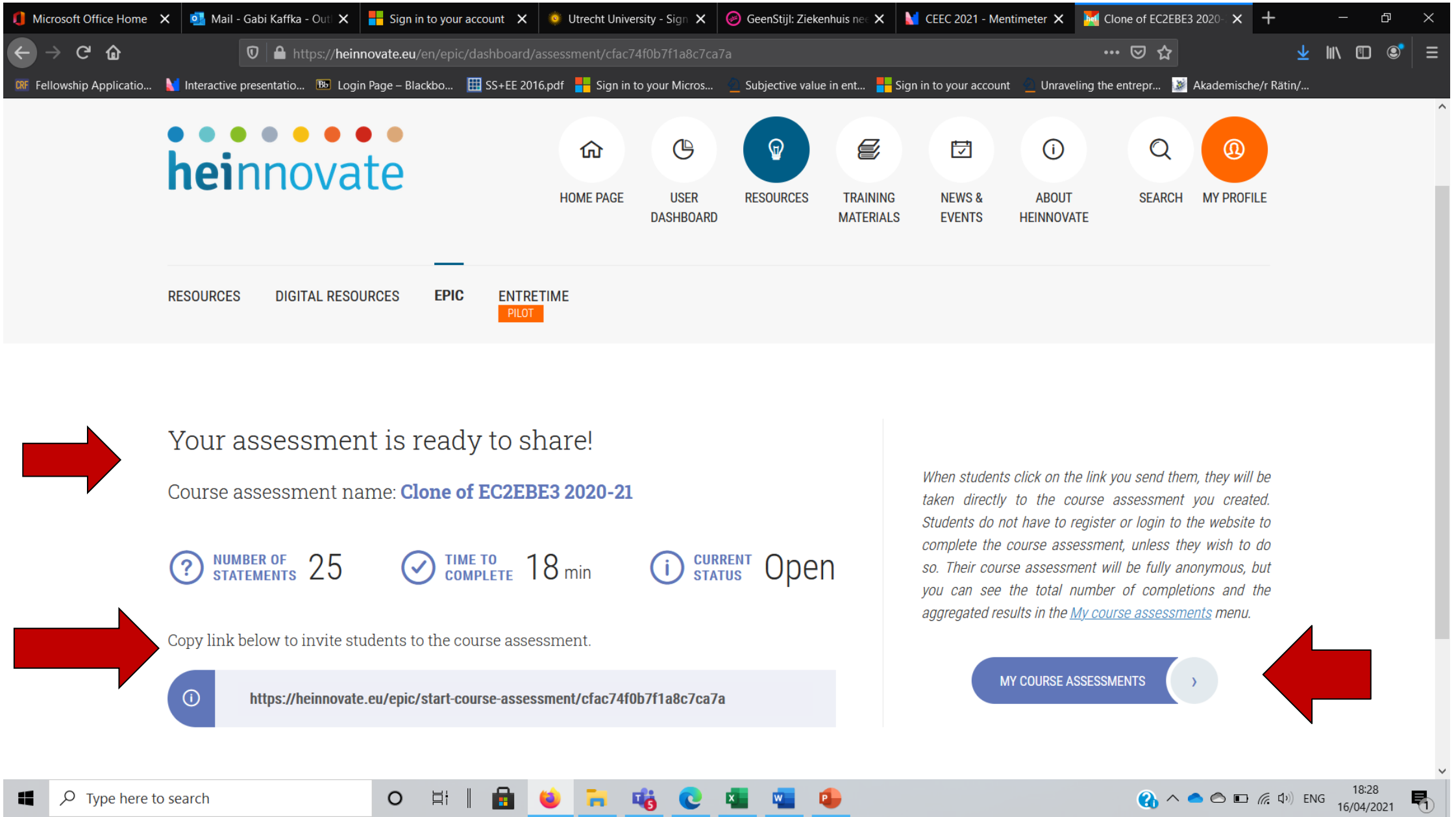
EPIC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Utrecht University - Sign
GeenStijl: Ziekenhuis nee
CEEC 2021 - Mentimeter
Clone of EC2EBE3 2020-
https://heinnovate.eu/en/epic/dashboard/assessment/cfac74f0b7f1a8c7ca7a
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Interactive presentatio...
Login Page – Blackbo...
SS+EE 2016.pdf
Sign in to your Micros...
Subjective value in ent...
Sign in to your account
Unraveling the entrepr...
Akademische/r Rätin/...
heinnovate
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USER DASHBOARD
RESOURCES
TRAINING MATERIALS
NEWS & EVENTS
ABOUT HEINNOVATE
SEARCH
MY PROFILE
RESOURCES
DIGITAL RESOURCES
EPIC
ENTRETIME
PILOT
Your assessment is ready to share!
Course assessment name: Clone of EC2EBE3 2020-21
NUMBER OF STATEMENTS 25
TIME TO COMPLETE 18 min
CURRENT STATUS Open
Copy link below to invite students to the course assessment.
https://heinnovate.eu/epic/start-course-assessment/cfac74f0b7f1a8c7ca7a
When students click on the link you send them, they will be taken directly to the course assessment you created. Students do not have to register or login to the website to complete the course assessment, unless they wish to do so. Their course assessment will be fully anonymous, but you can see the total number of completions and the aggregated results in the My course assessments menu.
MY COURSE ASSESSMENTS
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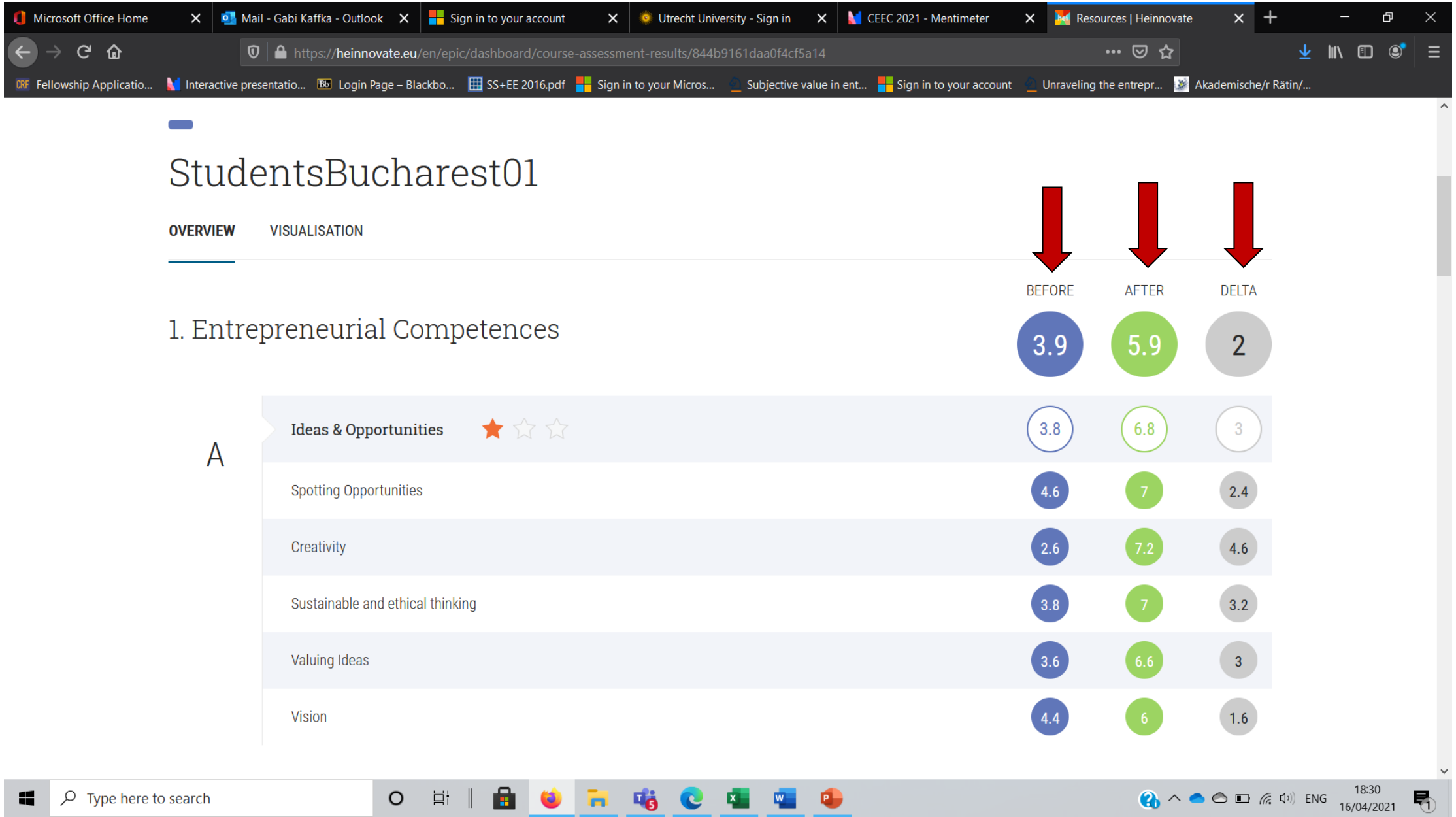
16/04/2021

EPIC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Sign in to your account
Utrecht University - Sign in
CEEC 2021 - Mentimeter
Resources | Heinnovate
https://heinnovate.eu/en/epic/dashboard/course-assessment-results/844b9161daa0f4cf5a14
Fellowship Applicatio...
Interactive presentatio...
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Unraveling the entrepr...
Akademische/r Rätin/...
StudentsBucharest01
OVERVIEW
VISUALISATION
BEFORE
AFTER
DELTA
1. Entrepreneurial Competences
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5.9
2
A
Ideas & Opportunities
3.8
6.8
3
Spotting Opportunities
4.6
7
2.4
Creativity
2.6
7.2
4.6
Sustainable and ethical thinking
3.8
7
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Valuing Ideas
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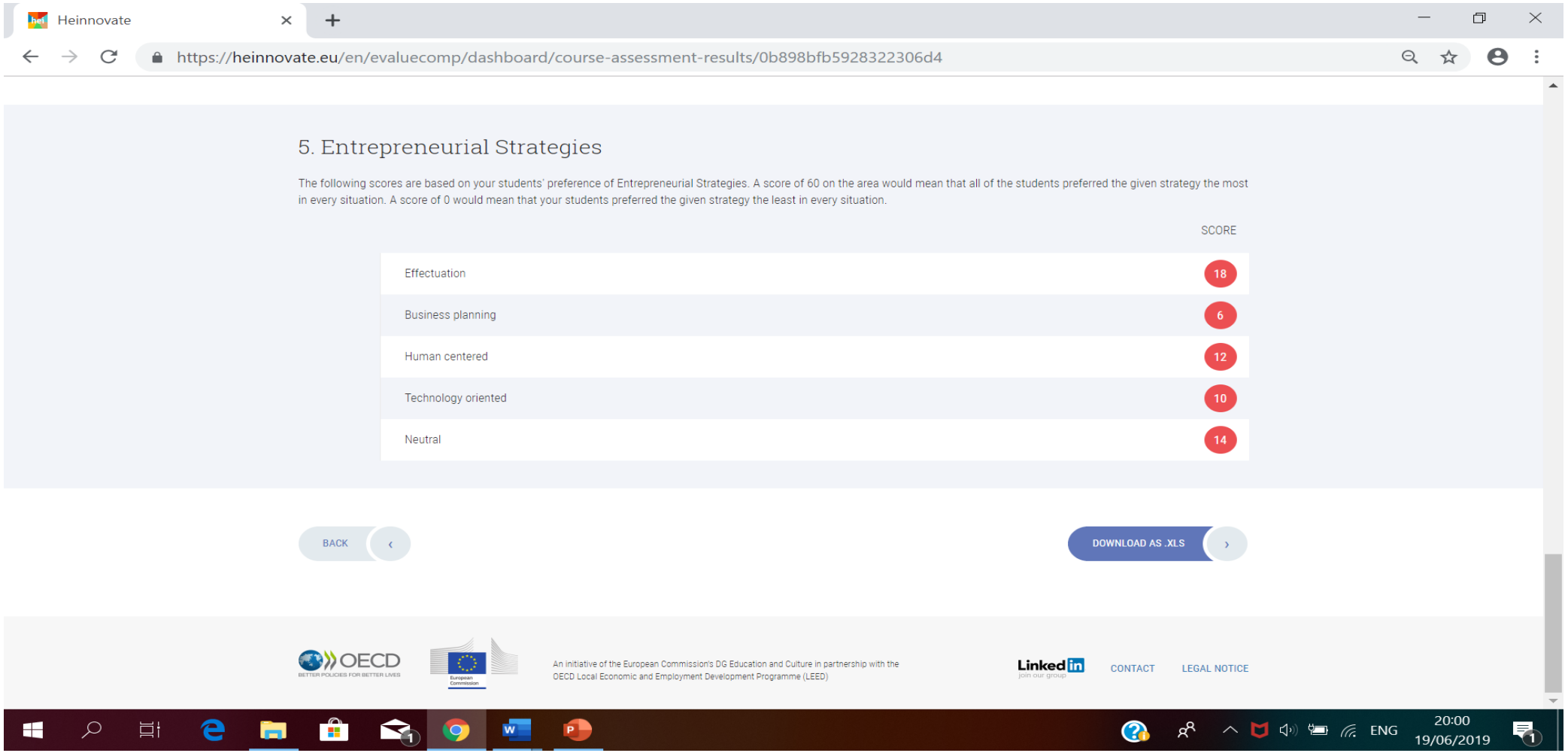
16/04/2021

EPIC



ECORYS · SCE Strascheg Center for Entrepreneurship · Foundation for Entrepreneurship Young Enterprise Denmark · technopolis group

Funded by the European Commission

EPIC: You can get involved!

WHY WOULD YOU?

- Gives you the opportunity to **design your own, custom-made outcome (self-)assessment questionnaire (or let your students do it)**

- Gives you a quick and easy **overview of the impact of entrepreneurship education** by means of the student self-assessment

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technopolis [group]
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<u>Three</u> Opportunities for Attendees!

Would you like to start planning your own assessment plan?

….let's talk!

Better yet, be part of a major global research project on assessment?

…. you know where to find us!

And become part of an incredible nascent community of practice?

…. welcome aboard!

EntrePed2022

Who To Follow: Great Community of Practice!

The best thinkers and doers that we know…

Nigel Adams
Geoff Archer
Marguerite Bacipalugo
Bart Derre
Gustav Hagg
Colin Jones
Inna Kozlinska
Martin Lackeus
Rose Lopes
Mekin Maheshwari
Kare Moberg
Helle Neergaard
Elena Oikannen
Kathryn Penaluna
Daniil Pokidko
Samantha Steidle
Ayman Tarabishy
Elinor Vettraino
Doan Winkel
Andreas Zitek

…and more!

advancing entrepreneurship worldwide
ICSB
International Council for Small Business

Links! (part 1)

- UK Quality Assurance Guidance for Enterprise and Entrepreneurship Education https://www.qaa.ac.uk/docs/qaas/enhancement-and-development/enterprise-and-entrpreneurship-education-2018.pdf
- UK HEA / AdvanceHE Guidance and best practice for embedding enterprise and entrepreneurship in the curriculum. https://www.advance-he.ac.uk/guidance/teaching-and-learning/enterprise-and-entrepreneurship
- Subject-led Enterprise Educators UK ETC Toolkit https://www.etctoolkit.org.uk

- Short EPIC marketing video: https://www.youtube.com/watch?v=gDVHelEbv0k
- Longer EPIC explanatory "how to" video:

https://www.youtube.com/watch?v=Wacyu8AVnCI&t=29s

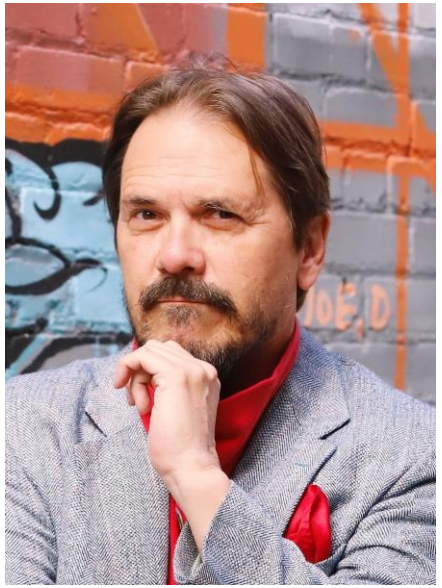
entrep ed manifesto 2021: https://bit.ly/2021EntEdManifesto

EntrePed2022

Links! (part 2)

- Key whitepapers: Penaluna, Krueger, and Lackeus
- Some **science**: http://bit.ly/ETP2007 , neuro, entrep ed chapt
- **Kare Moberg's** lit review on assessment: http://bit.ly/EPIClitrvw
- AMLE SLR on impact of entrep ed: http://bit.ly/AMLE_SLR
- **INTRINSIC** 's great videos here: https://www.intrinsic.eu/webinars-of-the-intrinsic-project.html
- **EntreComp:** https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/entrecomp-entrepreneurship-competence-framework
- OECD Netherlands study: www.bit.ly/OECDdelta

shameless self-promotion ;)
*(and **please** connect!)*



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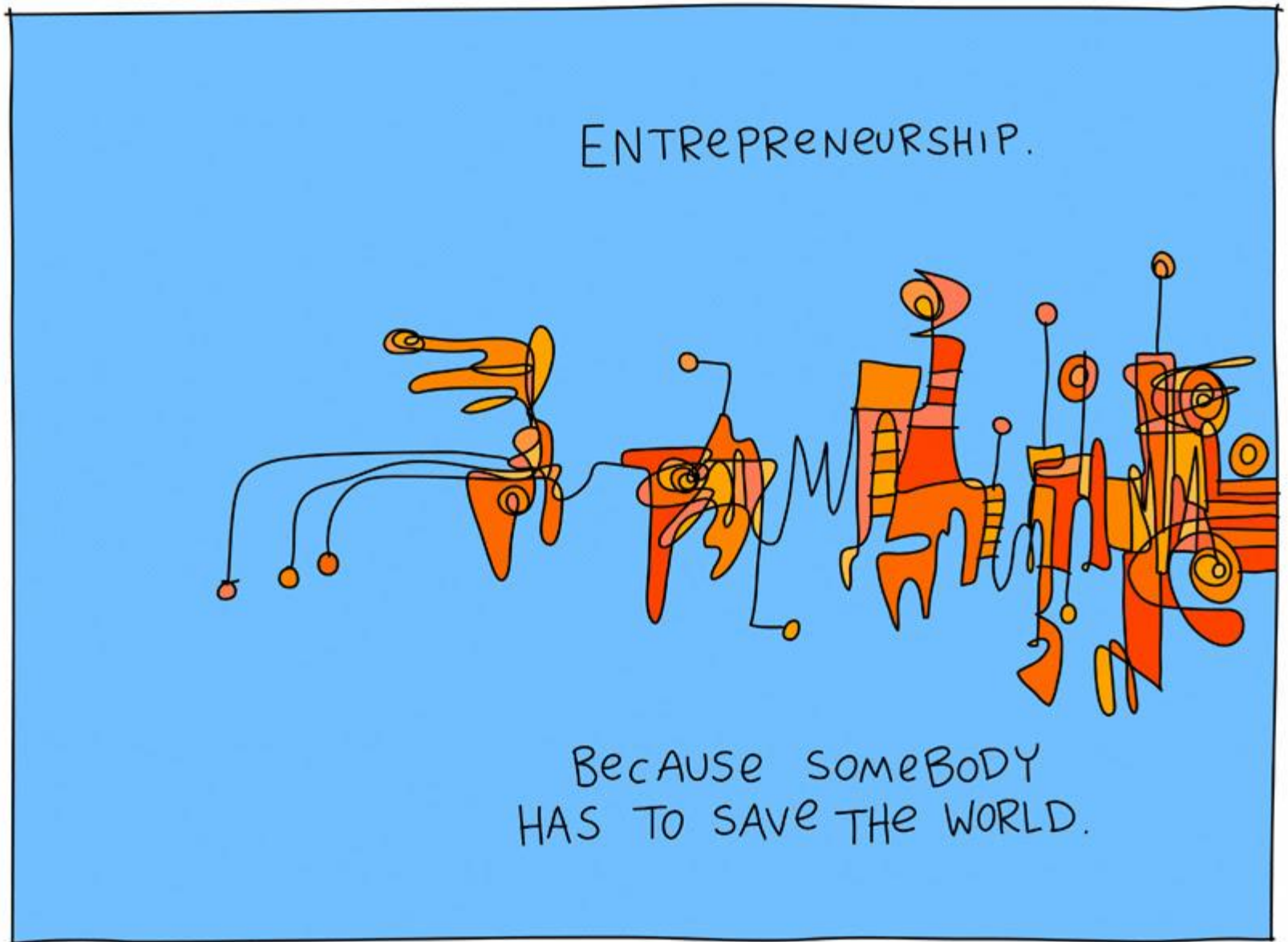
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