

FELICITY HEALEY-BENSON  
DOCTORAL STUDENT, DBA, UWTSO

**INFLUENCE OF  
ONLINE DISCUSSION (OD) DESIGN FOR  
CRITICAL THINKING SKILL (CTS) DEVELOPMENT**



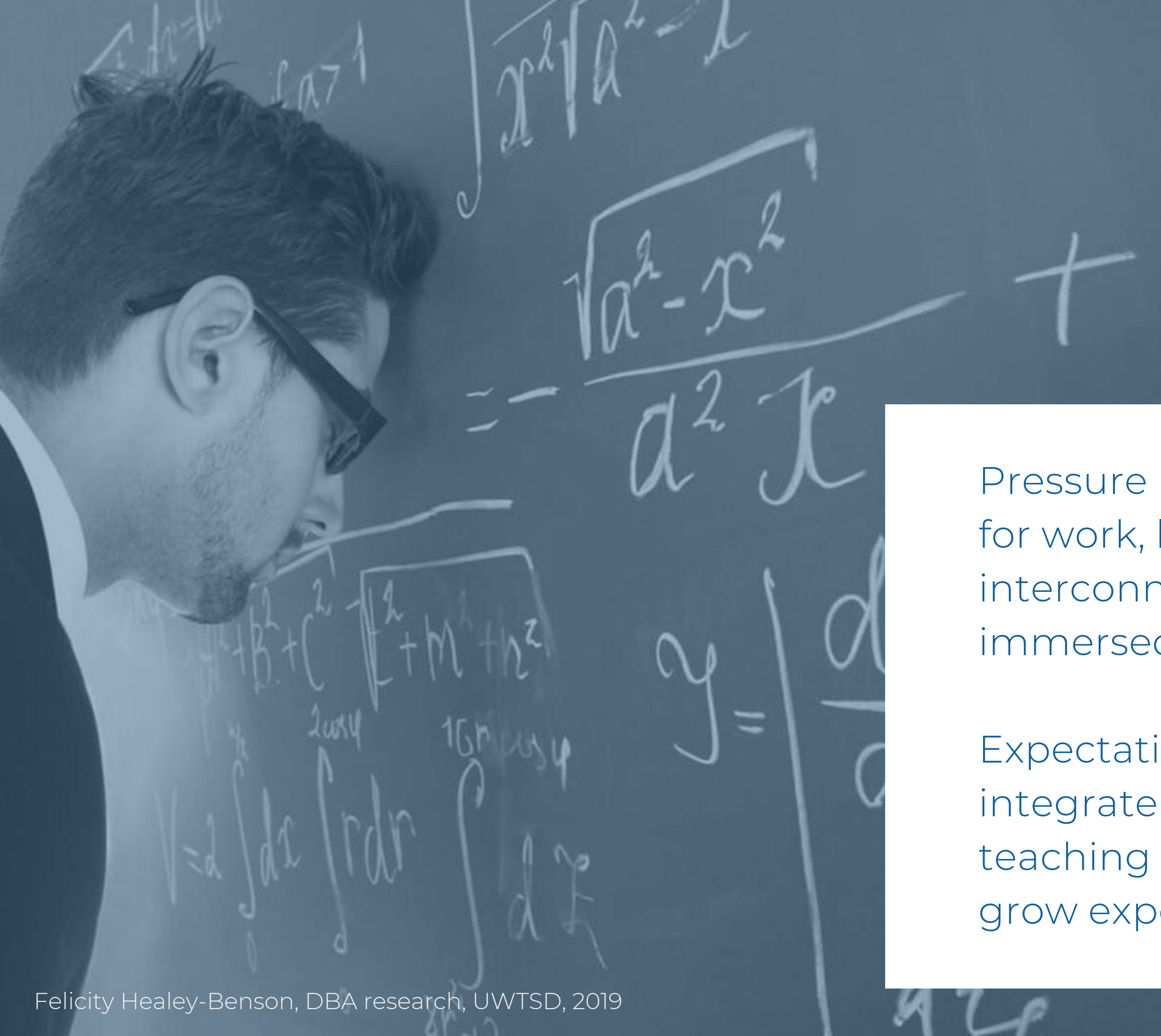
11TH JULY 2019, WALES NEXUS CONFERENCE 2019

Cynhadledd  
NEXUS Cymru 2019  
cynhadledd dysgu  
ac addysgu flynyddol

Wales NEXUS  
Conference 2019  
annual learning and  
teaching conference







Pressure is on to prepare students for work, life & citizenship in highly interconnected & technology-immersed societies (Scott, 2015),

Expectations placed on educators to integrate technologies within teaching practices is expected to grow exponentially (Bernard, 2017).





- ## Top 10 skills in 2020
1. Complex Problem Solving
  2. Critical Thinking
  3. Creativity
  4. People Management
  5. Coordinating with Others
  6. Emotional Intelligence
  7. Judgment and Decision Making
  8. Service Orientation
  9. Negotiation
  10. Cognitive Flexibility
- Add a little bit of body text

WABISABI LEARNING

JULY 24, 2015

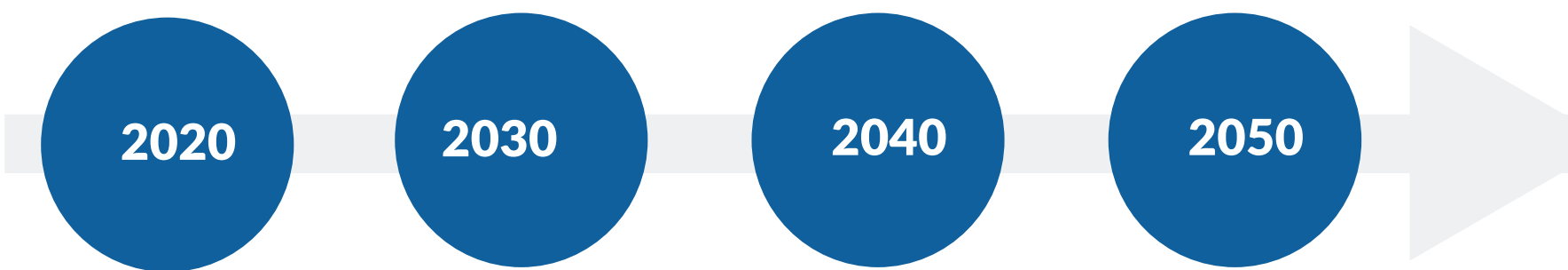
### THE IMPORTANCE OF TEACHING CRITICAL THINKING

For a long time now we've discussed critical thinking as being one of the top skills our students need for life beyond school. Such skills are enhanced by the processes of some of our other favourite tools and methodologies like [problem-solving](#) and [inquiry-based learning](#). But just how important are [critical thinking skills](#)? Additionally, what evidence can we look to for seeing the benefits of teaching them to our learners?

DELOITTE,  
FORBES  
HBS, ETC.

WORLD  
ECONOMIC  
FORUM

VARIOUS  
EDUCATIONAL  
INSTITUTIONS







ONLINE DISCUSSION (OD) HAS BECOME AN IMPORTANT PEDAGOGICAL TOOL IN BOTH DISTANCE EDUCATION COURSES AND FOR SUPPLEMENTING CLASSROOM DISCOURSES (KLISC ET AL., 2017) BUT SOME RESEARCH GAPS EXIST...

# EDUCATOR FOCUS

Focus on CTS not new.

Agreement discussion promotes CT through the process of explaining, clarifying, elaborating, & defending ideas

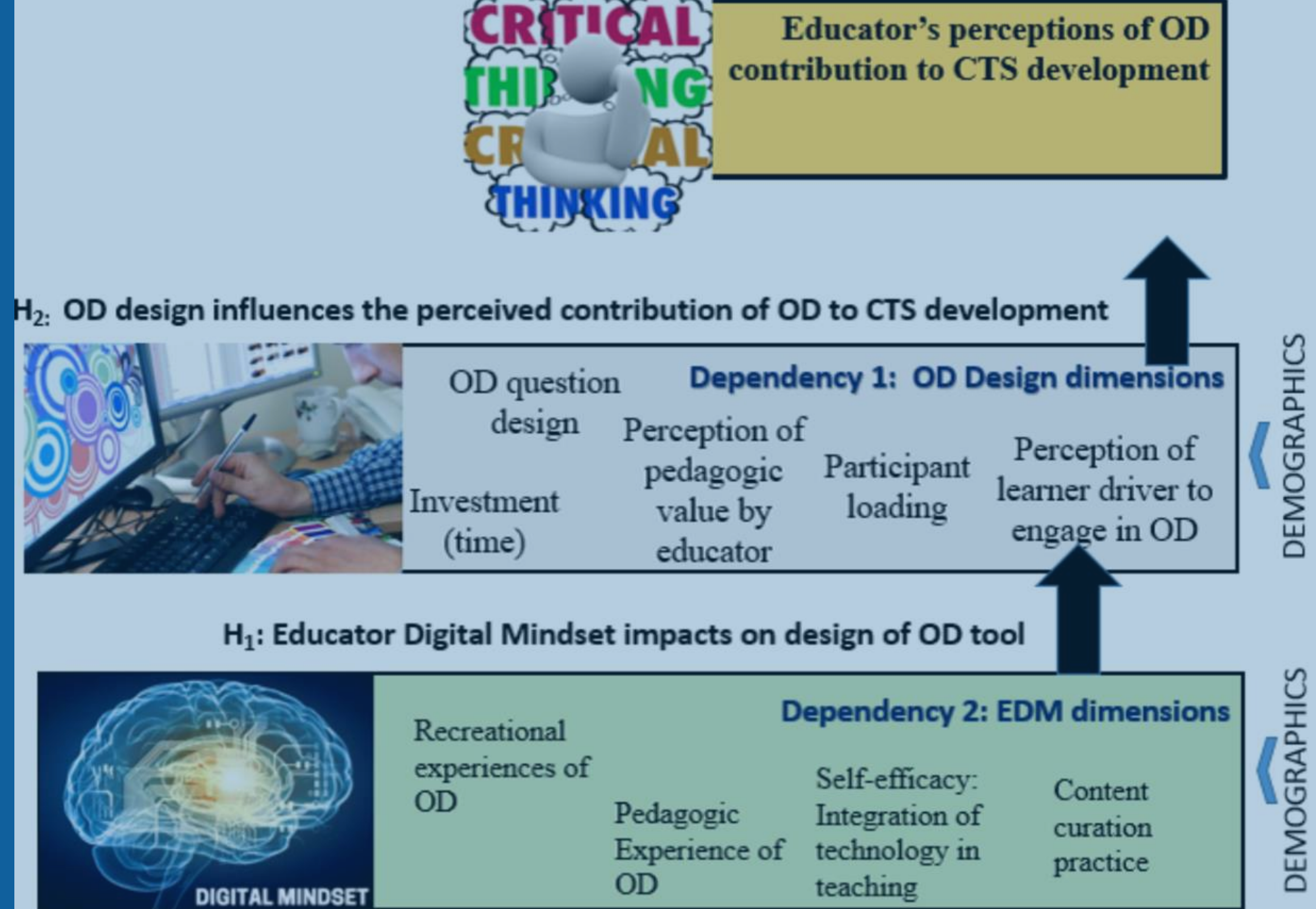
Yet little research has been statistically and systematically conducted to examine educator's conscious efforts to promote effective or developmental interactions online (Cho & Cho, 2016).

Educator's own digital capabilities/literacies/maturity have potential to impact speed/uptake of adoption, & how effectively employed to target CTS development.





# The conceptual framework



Do educators value OD as a tool to facilitate learner CTS?

Does an educator's DM impact the way they design OD tools as a potential means to develop learner CTS.?





# Literature Snapshot

teachers' demographics influence  
technology integration:  
years of teaching/age - negative effect  
beliefs & readiness - positive influence

**Inan & Lowther (2009)**

Demographics &  
technology integration

personal beliefs & dispositions of  
teachers are directly related their  
pedagogic practices

**Ertmer (2005)**

**Jimoyiannisa & Komisb (2007)**

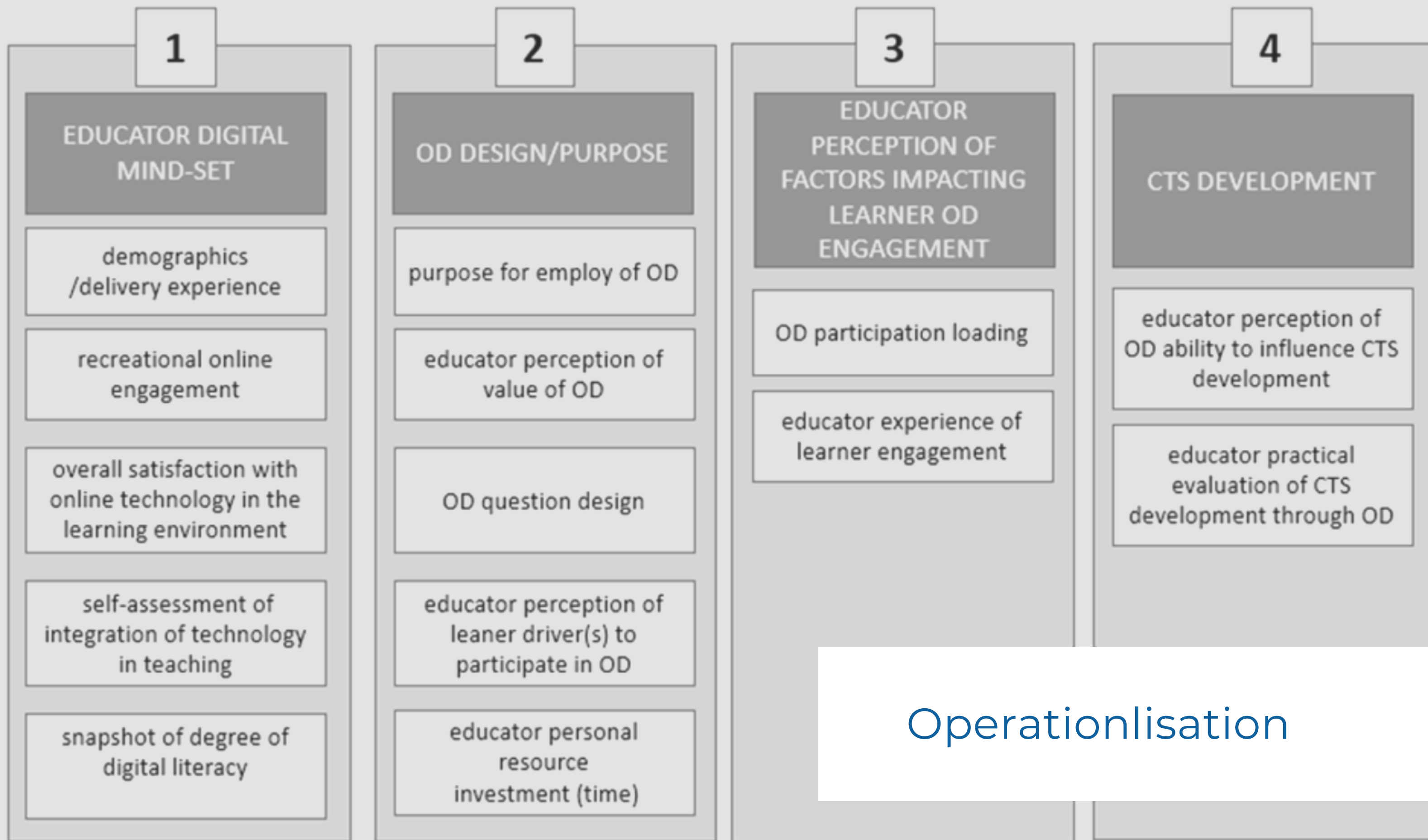
& personal experiences  
**(Yalcin et al., 2015; Tour, 2015).**

Beliefs, dispositions &  
personal experiences

teacher confidence in use of  
technology linked to level of  
integration & its success

**Anderson (2013)**

Technology confidence



**Figure 4.** Dimensions underpinning item clusters to operationalise the constructs (original, auth



# Methodology

QUANTITATIVE

POPULATION: 78 STUDENT-FACING BUSINESS/MGT ACADEMICS IN ONE FACULTY  
SAMPLE: 54% RESPONSE

ONLINE SURVEY – Nov/Dec 2018

PILOTS CONDUCTED



# 17 Questions, 4 sections

## Online Discussion (OD) and Critical Thinking Skill v2

### 1/4: Educator Profile

Online learning is transforming adult (post-secondary) education. Online Discussion (OD) is one of many tools employed in this context. Critical Thinking is listed as priority skill for future employability (World Economic Forum, 2018; Deloitte, 2018).

This survey aims to identify links between OD design and Critical Thinking Skill development.

There are 17 questions split across 4 sections. Estimated time of completion is 7 minutes. Thank you.

#### 1. To which gender do you identify?

- Female
- Male
- Prefer not to answer
- Prefer to self-describe:

#### 2. How many years have you worked in adult (*post-secondary*) education?

- < 1 year
- 11-15 years

*WhatsApp, Viber, Slack)*

Writing or commenting  
on blogs  
(*informal conversational  
style journal/logs*)

#### 6. How would you rate your personal overall experience with online technology in the learning environment?

Ease of Use

Overall pedagogic value

Level of enjoyment

#### 7. Which level captures your use of technology in your teaching?

**I'm scared of breaking it. I don't know what to do. I know I should use this in lessons but I don't know how.**

Survival

**Students & I are using tech effectively. Tech is embedded in my lessons and planning, where appropriate.**

Impact

**I've received training. I've practiced with apps. I've trialled it in lessons with success. I'm feeling more confident.**

Mastery



# ANALYSIS

- Descriptive statistics
- Factor analysis
- Spearman's product (zero & partial) correlation (initial non-parametric spread of the data & prevalence of ordinal & dichotomous variables )
- Development of composite variables allowed for some normalisation
- Kruskal-Wallis & Pearson's chi-squared statistical tests for the variables predictive qualities



The results, based on the survey instruments with overall Cronbach's alpha,  $\alpha = .81$  suggest 9 factors to be significantly statistically contributory to an EDM measure.

There was also a moderately positive relationship between an EDM and OD use and OD value

Perceptions of OD value are statistically predictive of perceptions of OD to contribute to CTS development.



EDUCATOR  
IMPACTS  
ON DESIGN  
& VALUE  
OF  
OD TOOL



## TEACHING ONLINE MATTERS

Pedagogic value & experience of Online delivery has a strong correlation ( $r=.53$ ,  $n=38$ ,  $p<.001$ ).

## ACADEMIC TENURE

Years worked in education & OD value - marginal positive statistical significance

## RECREATIONAL ACTIVITY

length of time spent on recreational OD influences engagement in OD and OD Value  $\chi^2(4) = 16.012$ ,  $p = 0.003$ .

OD DESIGN  
INFLUENCES  
PERCEIVED  
CONTRIBUTION  
OF  
OD TO  
CTS



OD DESIGN LINKED TO  
A HIGH RATING OF CTS  
DEVELOPMENT POTENTIAL

YET...A LACK OF CERTAINTY  
OVER OF VALUE OF OD IN  
PROMOTING CTS

A lack of certainty over OD value should be of interest to university, for if staff are unsure about its capability, there is a higher chance the targeted capability development will not be achieved.

A possible incongruence between these findings suggests they know it should, but not sure how, or at least, in what ways it does, or the reason has not been captured through this survey instrument.



A preliminary study, with a number of key lessons learnt about question design and aspects of OD DESIGN & DM indicators

Inform a more statistically valid and reliable method to support the creation of more effective measures.

Aims to support pedagogic adaption that address current challenges of delivering a management/business education curriculum fit for Industry/Work 4.0.



# IMPLICATIONS

**THANK YOU**

# CONTACT

[FELICITY.HEALEY-BENSON@UWTSD.AC.UK](mailto:FELICITY.HEALEY-BENSON@UWTSD.AC.UK)

[FELICITY@EMERGENT-THINKERS.ORG](mailto:FELICITY@EMERGENT-THINKERS.ORG)



**EMERGENT THINKERS**

Applied Research for Business and Education 4.0 in 4IR