



# Publiek-private samenwerking voor AI-verbeterd leren



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**MSc Information Management**

TIAS School for Business and Society



**Ewoud de Kok**

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**Chairman**

Dutch Edtech

**Initiator**

Trustframework.eu



1.

One of the first  
AI application in  
education

2.

Doetank:  
Public/Private  
innovation  
collaboration  
template

3.

TrustFramework:  
to safeguard  
public values in  
public private  
partnerships



# Automated Feedback

Powered by AI, this tool provides instantaneous feedback to enhance students' performance in academic writing and stimulate deeper learning while offering teachers more time to provide higher-order feedback.

An **EdTech DoTank** co-creation with



## Validation “Winner of Oscars for Edtech”

The most remarkable success of the Dotank is with winning Silver for Automated Feedback and Gold for the complete toolsuite on the Wharton Reimagine Education awards. [Article](#).

Automated Feedback Coach has also been shortlisted for "Best use of Gen AI in Education" this year.

FeedbackFruits wins big at the  
**QS Reimagine Education Awards**



**REIMAGINE EDUCATION**



THE ALFRED WEST JR.  
**LEARNING LAB**



**E-Learning Category**

**GOLD**



**AI Category**

**SILVER**



## Use Case | Feedback on academic writing

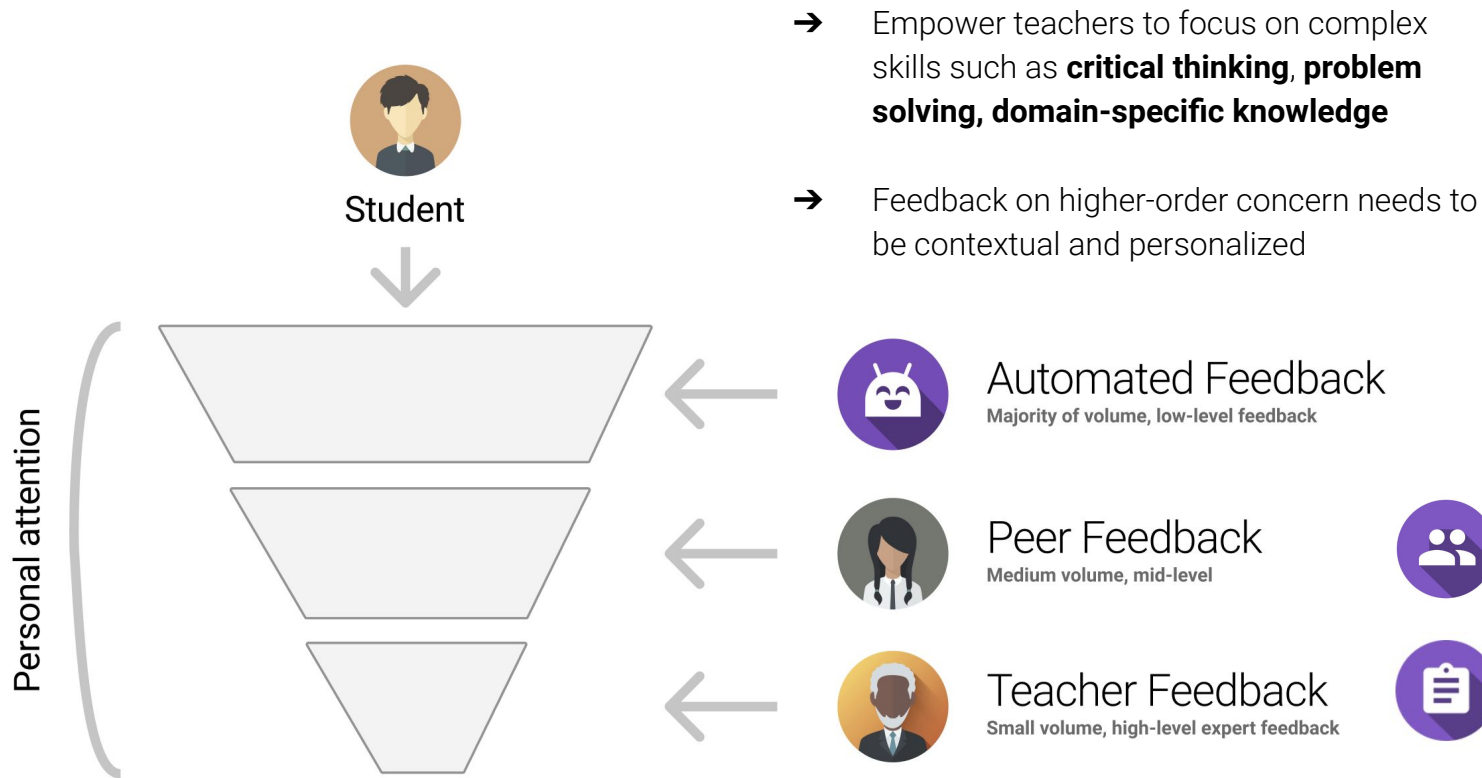


Why did you approach us?





## Attention | The tool does not replace the instructor





# We embrace EU Guidelines for Trustworthy AI [9] [10]

Celebrate **ethics by design**

AI **does not have access to student data** without explicit consent to a **transparent** data policy

Only used in the **formative process**, final grading is a human action

Students and teachers can always **object to incorrect feedback** at any time





# Solution | Automated Feedback [5]

← Academic report version 1

to competitors is simply too high of a risk to take.

On the other hand, the problem is not so easily solved. European head of marketing at Typeware is Jurghen Mehr, upon hearing the salary Typeware is prepared to offer Anne was not pleased. The problem which now brought to contention is that the salary needed to secure Anne may seem disproportional to her position compared to Typwares employees. For instance, as Jurgen points out **It's** almost as much as I make' (Fryer, 2003). Furthermore, it is not only Jurgen who may object to the high salary as other employees may see it as a **misjustice**, proportionally to how much they are paid and so lead them to feel valueless to the organisation who only care about economic gains (presented in the form of Anne).

**HR Theory**

This chapter will analyse three HRM theories; Equity Theory, Efficiency Wage Theory and Human Motivation Theory. Such will help understand the theoretical evidence behind the issues that the

3

problem statements highlight. HRM theory is considered on many levels and perspectives within the organisation. For instance, Wright (2002) suggests the limitation of research that attempts to universalise macro and micro HRM by ignoring the potential discrepancies within these segments. Furthermore, Wright distinguishes between the use of multiple or single HR practices in relation to the level of analysis (macro or micro). We have here identified theories, with regards to Wright (2002), which focus on micro HRM concerning multiple practices. For instance, Equity Theory concerns how HR policies relating to pay influences individuals perception of fairness and equity within the organisation.

Feedback

4

+

−

5

12

← Comments

Criterion

Formal writing style

Document should be written in a formal writing style, avoidin...

[Read more...](#)

Some suggestions

Formal writing style · Suggestion

**Sentence is informal**

@page 4

It seems you are using a contraction here, which is discouraged in formal writing. We suggest writing out the contraction in full, to make your writing more formal.

MARK AS INCORRECT

Was this useful?

☆☆☆☆☆

Formal writing style · Suggestion

**Sentence is informal**

@page 4

It seems you are using a coordinating conjunction at the start of a sentence here, which is discouraged in formal writing. We suggest rewrite the beginning of the sentence to not use a coordinating conjunction, to make your writing more formal.





## What have we heard so far?



Ultimately, I'd like to provide detailed feedback for every single assignment, but that's unrealistic. **Automated Feedback did something I couldn't provide for students.**



It reduced the amount of students that quit because it diminished their anxiety level while writing their thesis. **It provided a big confidence boost to ensure they believe they could actually deliver good work.**



UNIVERSITY  
OF AMSTERDAM



Used in **50+ institutions**

Supported **20k learners in 100K reviews** since launch

“

The coach gave them good tips on **what to improve on** and assisted in giving **detailed feedback** about specific things.

They are actually **enjoying** getting more specific feedback about themselves.

– Hannah Silber  
University of Wisconsin-Madison

# Learning journeys with AI

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## Writing with ChatGPT

Embrace AI in writing assignments  
design



## ChatGPT and digital literacy

Harness the power of generative AI in  
developing real-life skills





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# Why Dotank collaboration?

Higher education is **rich in excellent ideas**, but clear and effective methods for transforming these ideas into modern technological solutions at scale are in short supply

Innovation at a **pace impossible to achieve individual**  
Guaranteeing **European values** in a trustworthy public private agreement

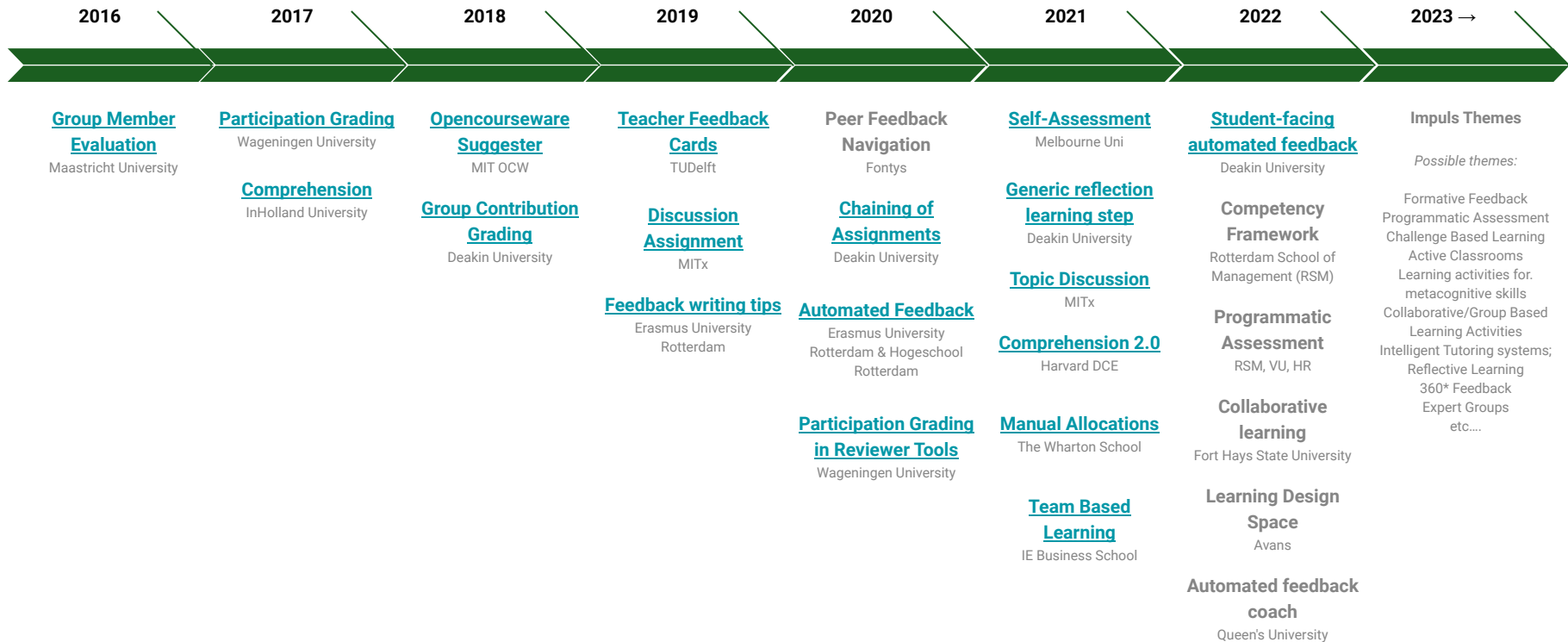


# Onderwijs Doetank

## Bewezen effectieve methode: Doetank tafels

- 1 didactische werkvorm per tafel
- Per tafel 6 seats voor onderwijsinhoudelijke experts van instellingen
- Resultaat samenwerking met FbF: één didactische tool per tafel





DoTank track record



## Use Case | Feedback on academic writing



What is your experience with the Doetank Method?







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# Strategic Objectives



Fostering Trustworthy Public/Private Partnerships in Education





## Coalition of the willing

Dutch Higher Education institutions

Dutch EdTech

SURF

Legal assistance by Arthur's Legal (EU)

Supported by Council of Europe | [DCE Programme](#)



Trust Framework

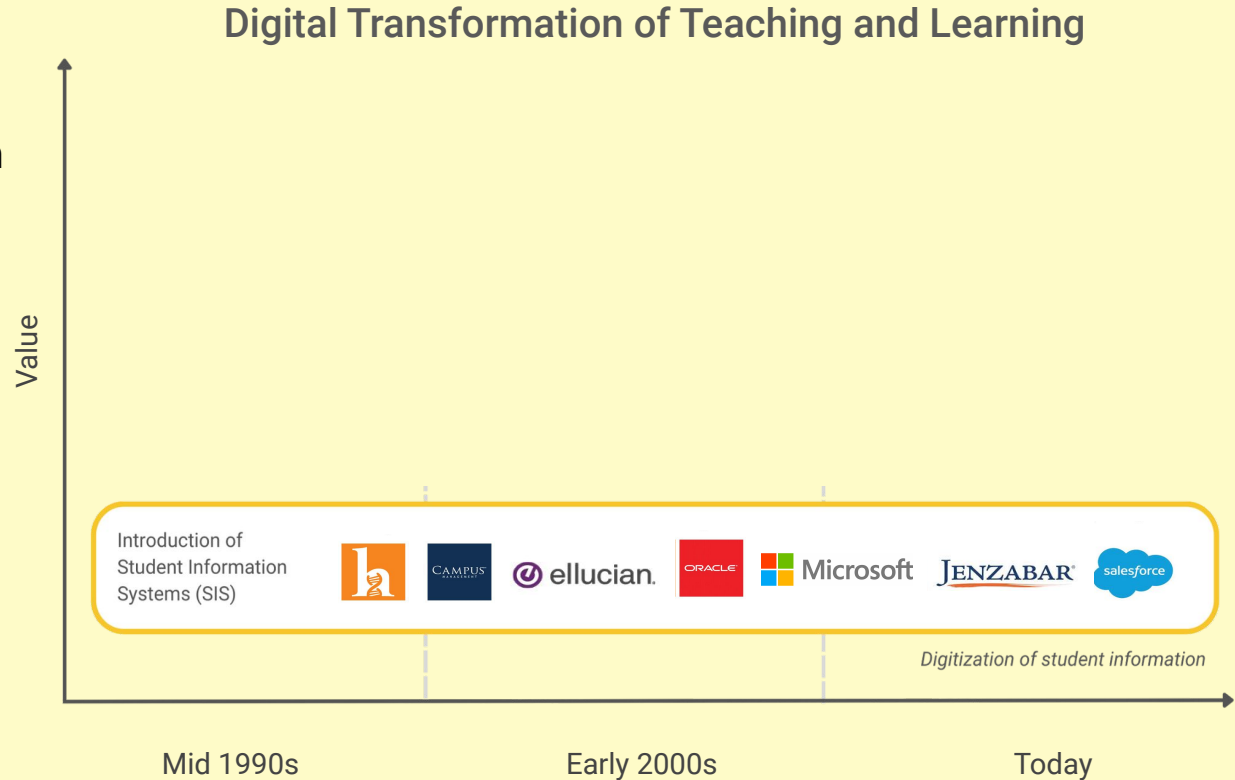
trustframework.eu

# Context

Digital Transformation of Education.

Three phases:

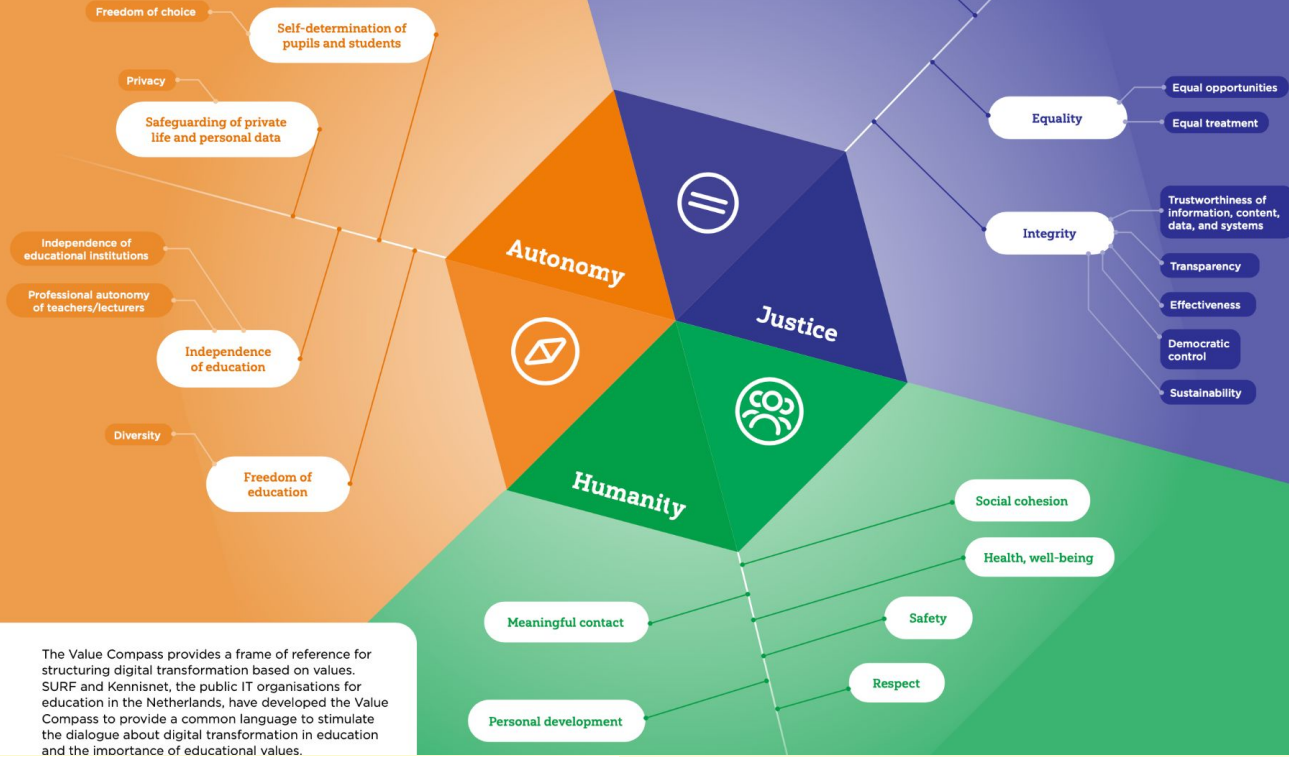
1. Digitization
2. Digitalization
3. Digital Transformation



On one side:

# Public Values

## Value Compass for digital transformation of education



On the other side:

## Shareholder Value

**UPSKILLING**

AMBOSS Capaball CoachHub

IMMERSIVE LABS Jolt KEN HUB

Show Academy ornikar The Power MBA SALES IMPACT ACADEMY

Sharpist Unow TOUCHSURGERY

**MANAGEMENT SYSTEMS**

enroly klass satchel: Sdui

STUCCOMM Teacherly tiney UNIBUDDY

**JOBS & INTERNSHIPS**

Campusjäger Intern Group student 2020

WhiteHat VIRTUAL INTERNSHIPS HeySuccess

**DIGITAL LEARNING ENVIRONMENTS**

360Learning appscho hownow

CENTURY klaxoon

LearnUpon WAP LearnWorlds OBRIZUM

Quipper studytube WESCHOOL

**LANGUAGE LEARNING**

+Babbel Busuu Global Exam

Lingoda Lingokids

lingumi MEM RISE NOV KID

speaky speexx tandem

2020 EUROPE EDTECH

**100**

**Holon IQ** www.holoniq.com

**LEARNING CONTENT & RESOURCES**

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causally Elucidat kartable lalilo

meovly Morressier Perlego Studydrive

**XR, VOICE & CHAT**

blippar MEL Science uptale. VIRTUAL SPEECH

**TUTORING & HOMEWORK HELP**

BRAINLY docstly I= Eedi

GoStudent MyTutor StudySmarter

SENECA sofaturator

superprof Tutorful SCHOOLMOOV

**STEAM & CODING**

Complete Mathematics pi-top sparx

**MOOCS & BOOTCAMPS**

CO DSA code institute CAREERFOUNDRY Growth Tribe

compucademy Future Learn le wagon MIRIADAX

OPENCLASSROOMS SIMPLON Strive KOKOROE

**ASSESSMENT & VERIFICATION**

BCDiploma PROCTOREXAM QuizPlize



Trust Framework

trustframework.eu



## Framework objectives

Anchor public values in public private collaboration

Accelerate innovation

Mitigate dependencies on monopolies, working towards a trustworthy **ecosystem**





# From Values to **Action**

Trustworthiness, like ethics in general, doesn't have to be abstract. We believe in taking a pragmatic approach to fostering trustworthy partnerships.





# Three Fundamentals

## **Design Principles**

for Edtech Founders

See 14 design principles that can be useful when founders want to incorporate public values into their startup.

[See Edtech Principles](#)

## **Procurement Principles**

for Edtech Buyers

See the principles Edtech buyers can use when evaluating or buying Edtech Solutions.

[See Procure Principles](#)

## **Collaboration Principles**

for all stakeholders

See the legal deployable principles that can be used to protect the trustworthiness of the collaboration in agreements between the Edtech Vendor and the Public Institution.

[See Legal Principles](#)



# Three Fundamentals

**Design Principles**

for Edtech Founders

**To Build**

[See Edtech Principles](#)



# Example of Design Principles for **Edtech Founders**

## **Design Principles**

for Edtech Founders

See 14 design principles that can be useful when founders want to incorporate public values into their startup.

See Edtech Principles

## Trustworthy Business Model

- **Revenue model transparency**
- **Avoid tie-in terms**

## Trustworthy Product

- **Data Privacy and Security**
- **Interoperability and Integration**
- **Autonomy for the educators**

## Trustworthy Business Operation

- **Impact Assessment**
- **Support & service**



# Example of legal principles for all stakeholders

## Collaboration Principles

for all stakeholders

See the legal deployable principles that can be used to protect the trustworthiness of the collaboration in agreements between the Edtech Vendor and the Public Institution.

See Legal Principles

### 33 Deployable Principles:

This v2023 release consists of thirty three (33) Deployable Principles ('DP'): DP.01 through DP33.

Deployable Principle ID	Brief Description / Use Case	Key Values	Deployable Principle
DP.01	<b>No Harmful Terms</b>  No terms, codes, policies, documents or other parts of any contractual arrangements should be harmful to learners, teachers and other users.	1.A, 1.B, 1.E & 1.F	Terms can only be applicable when those are beneficial, and neither harmful nor (otherwise) materially detrimental to learners, teachers, other users, and society at large. <div><div></div><div>Design Phases</div><div>✓Pre-Procurement Phase</div><div>✓Negotiation Phases</div><div>Implementation Phases</div><div>Operation Phases</div><div>✓Accountability Events</div></div>
DP.02	<b>No 'Take It or Leave It' Arrangements</b>  Any 'take it or leave it' arrangements set by providers should be avoided.	1.A, 1.B, 1.E & 1.F	Any take it or leave it arrangements set by providers are not acceptable. <div><div></div><div>Design Phases</div><div>✓Pre-Procurement Phase</div><div>✓Negotiation Phases</div><div>Implementation Phases</div><div>Operation Phases</div><div>✓Accountability Events</div></div>
DP.03	<b>No Unilateral Change</b>  No unilateral change of any terms, codes, policies or other documents that are part of a	1.A, 1.B, 1.E & 1.F	No unilateral change of strategic, tactical, operational, service or (other) legal terms. <div><div></div><div>Design Phases</div></div>





## Use Case | Feedback on academic writing



Do you see overlap with the  
research side of education?



Thank you for attending!  
Any questions?

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## References and resources

- [1] [Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. \(2016\). Intelligence unleashed: An argument for AI in education.](#)
- [2] [van Duin, S., & Bakhshi, N. \(2020, March 17\). Artificial Intelligence defined. Deloitte. Retrieved May 24, 2022, from https://www2.deloitte.com/se/sv/pages/technology/articles/part1-artificial-intelligence-defined.html](#)
- [3] [Zawacki-Richter, O., Marín, V.I., Bond, M. et al. Systematic review of research on artificial intelligence applications in higher education – where are the educators?. Int J Educ Technol High Educ 16, 39 \(2019\). https://doi.org/10.1186/s41239-019-0171-0](#)
- [4] [2022 EDUCAUSE Horizon Report](#)
- [5] [Dr. Inge Molenaar \(Radboud University\) on AI in Teaching and Learning](#)
- [6] [FeedbackFruits: Automated Feedback](#)
- [7] [SoLAR Nexus: Humanizing AI Research and Design in Education by Broadening Community Engagement](#)
- [8] [Data governance: Organizing data for trustworthy Artificial Intelligence](#)
- [9] [EU: Ethics guidelines for trustworthy AI](#)
- [10] [Data Silence: How AI is learning discrimination and what FeedbackFruits is doing about it](#)