



EdTech that Matters

Preserving Integrity, Measuring Impact

Manika Garg

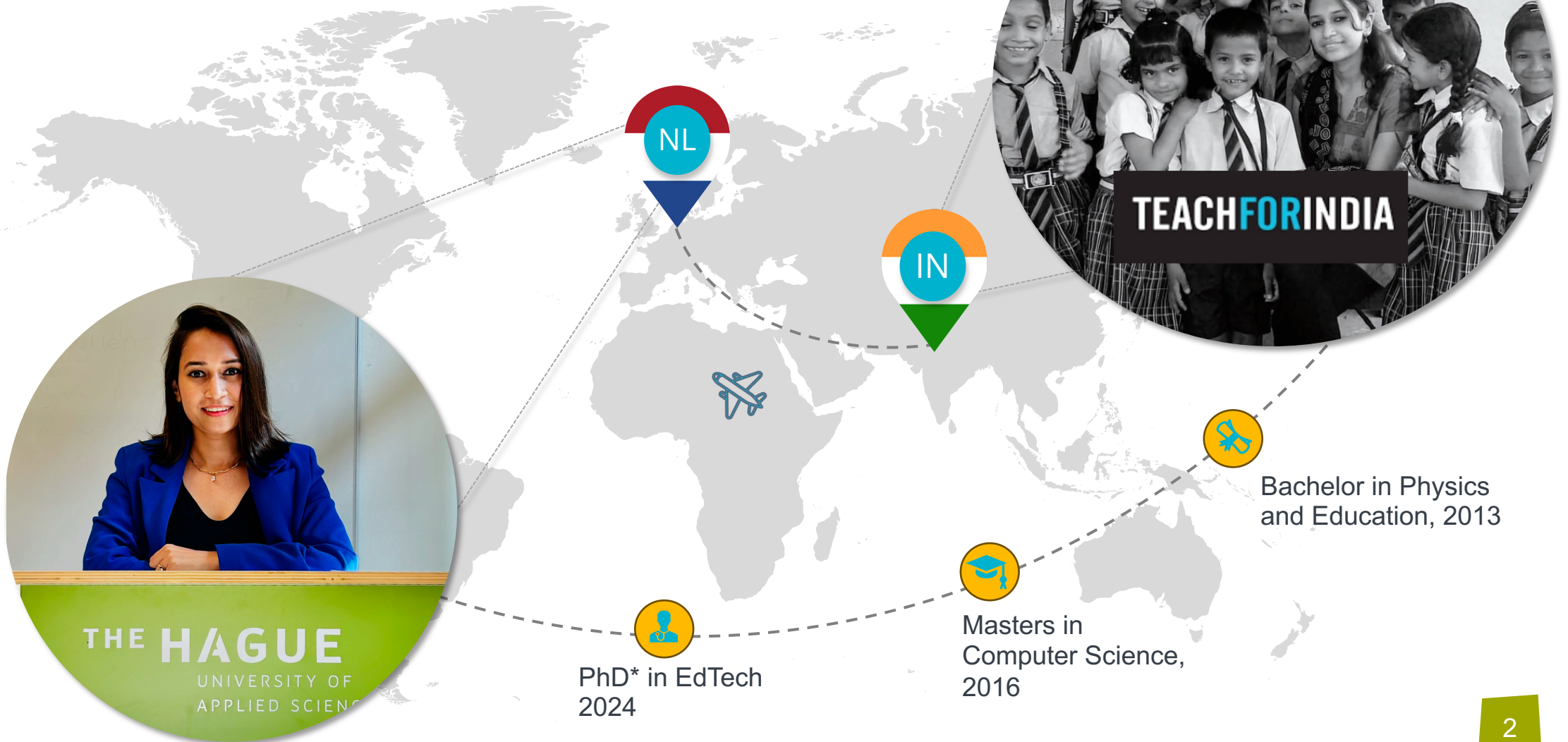
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On the occasion of the inaugural speech of Theo Bakker - Professor of Learning Technology & Analytics
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Background

My Journey from India to The Netherlands



Education has the power to solve the world's greatest challenges — and with technology, its impact only deepens. EdTech is the future of accessible, transformative learning.



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Sciences

“I fear that machines are ahead of morals by some centuries and when morals catch up perhaps there’ll be no reason for any of it.”

Harry Truman

President United States (1945-53)

Penned in his diary on the morning of the first atomic bomb test, Trinity, in 1945.



My Research

Two Major Tracks in EdTech

I. Integrity Preservation

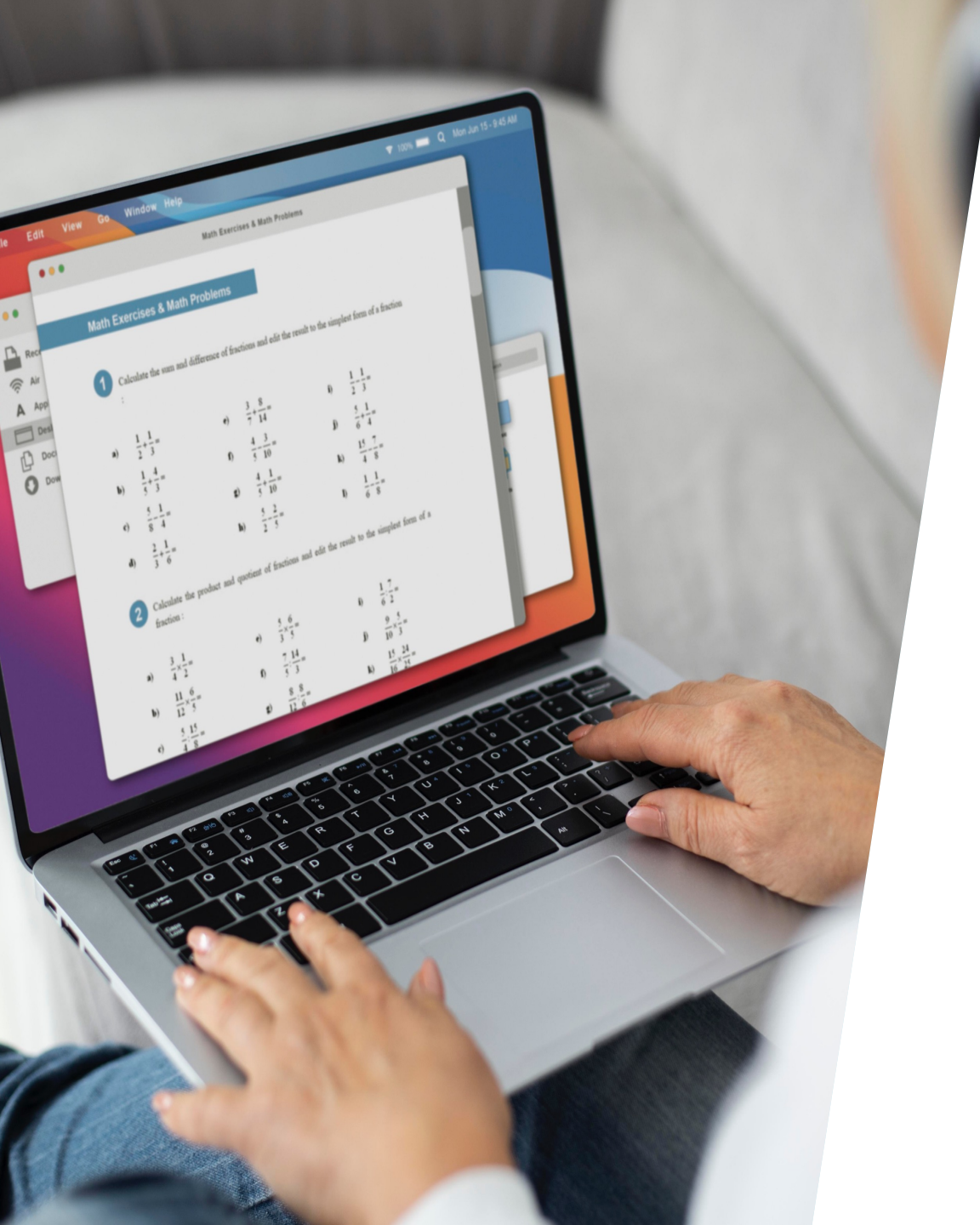
Mitigating academic dishonesty in online assessments using machine learning

II. Impact Evaluation

Developing a framework for Evidence-based Effect study in EdTech (3E)

A photograph of three people (two women and one man) sitting at a desk in an office, looking at a large computer monitor. The monitor displays various data visualizations, including bar charts and pie charts. The people are smiling and appear to be engaged in a collaborative discussion. The background shows a bookshelf filled with books and a potted plant. A semi-transparent teal banner is overlaid across the middle of the image, containing the text 'I. Integrity Preservation in EdTech'.

I. Integrity Preservation in EdTech



Current Challenges

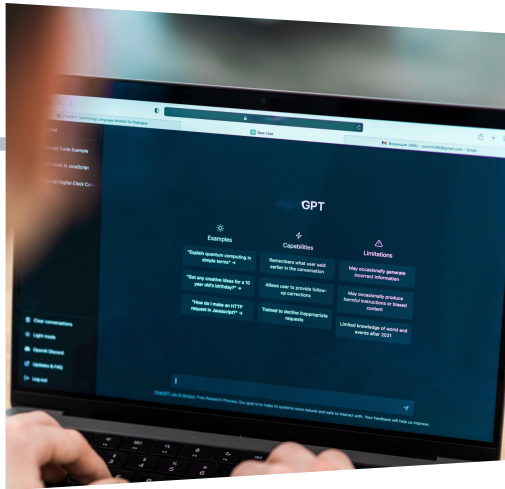
Preserving Integrity in Online Assessment

- Assessments – Integral part of Online Education
- Prevalence of **academic dishonesty**
- Need to **preserve academic integrity** for:
 - Fair evaluation of student's knowledge
 - Maintain credibility of online credentials

Focus

Three common issues observed in Online Assessments

1. Internet-as-a-Forbidden Aid



Model for the Detection of Internet-as-a-Forbidden-Aid (MDIFA)

2. Collusion



Model for the Detection of In-Parallel Collusion (MDIPC)

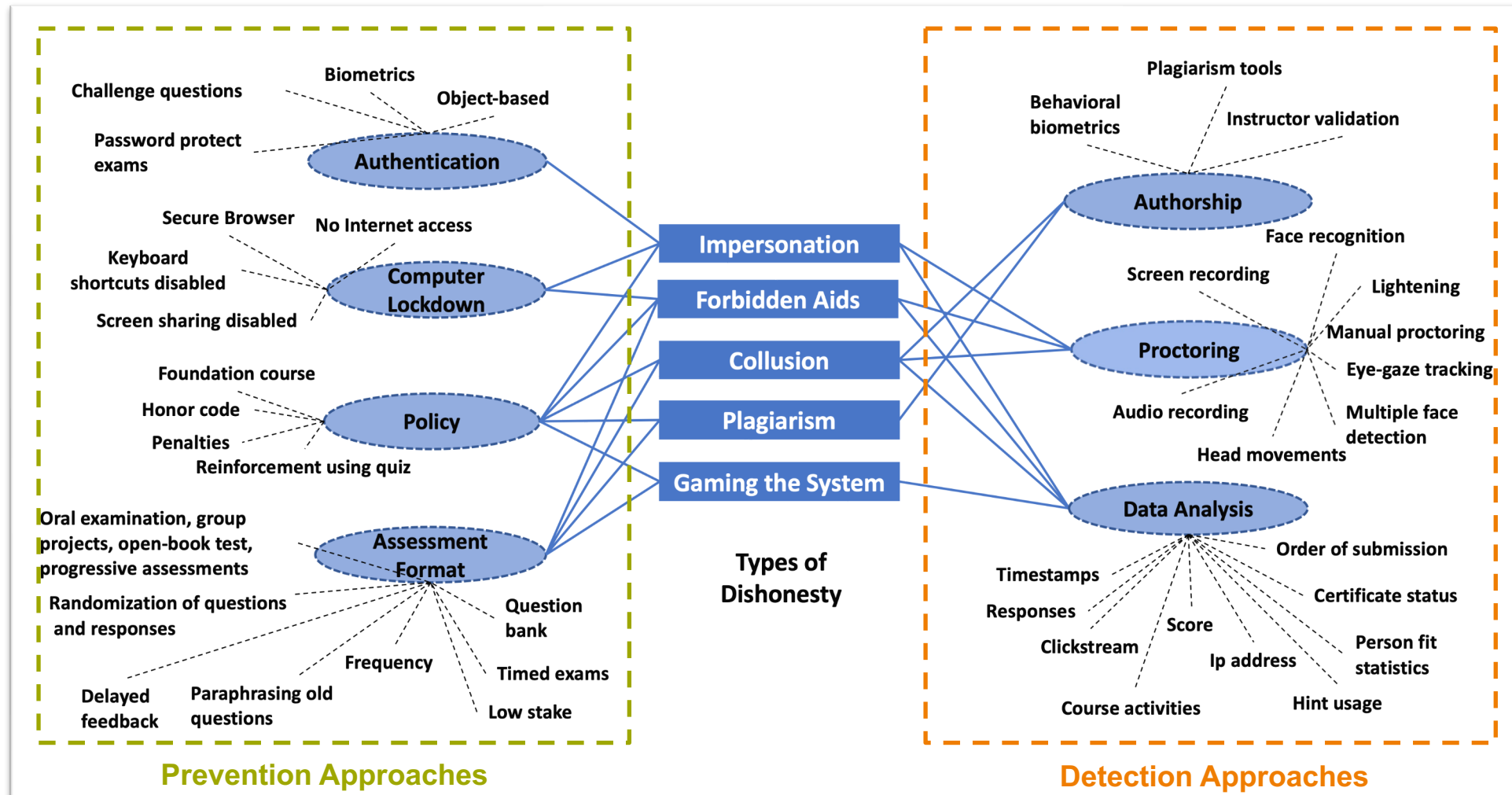
3. Impersonation



Impersonation Mitigation Approach (IMA)

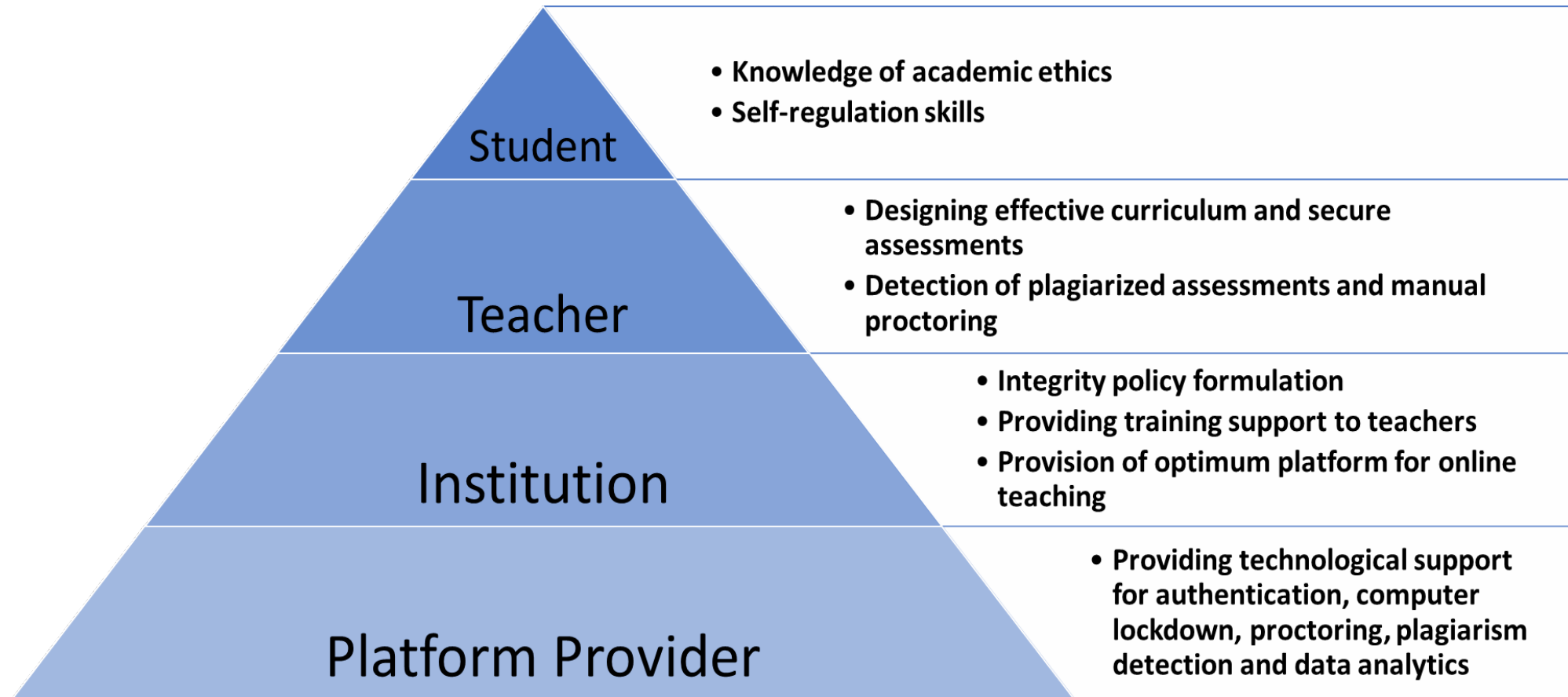
Academic Dishonesty Mitigation Plan (ADMP)

A comprehensive plan for preserving integrity in online assessment



Stakeholders

Role of Stakeholders in Academic Dishonesty Mitigation Plan



A photograph of three people in an office setting. A man, a woman, and another woman are sitting at a desk, looking at a large computer monitor. The monitor displays various data visualizations, including bar charts and pie charts. The man is smiling, and the woman next to him is also smiling. The woman on the right is looking at the monitor. The background shows a bookshelf with books and a potted plant. A teal banner is overlaid on the bottom half of the image, containing the text 'II. Impact Evaluation of EdTech'.

II. Impact Evaluation of EdTech

Current Challenges

Educational Institutions face challenges in selecting EdTech tools that align with their unique needs and goals.

How to select tools that best fit our goals and requirements?
The existing tool doesn't deliver what it promised!



Educational Institutions

EdTech Companies struggle to assess the effectiveness of their tools and determine whether to improve or scale.

Should we scale up or improve?
How to ensure the effectiveness of our tool?



EdTech Companies

Solution

Evidence-based Effect Studies in EdTech (3E)

In collaboration with Npuls

Developing a framework for Evidence-based Effect Studies in EdTech (3E) that:

- Analyse the impact of EdTech tools on key educational aspects: teaching and learning.
- Evaluate how well these tools meet their intended objectives using a Badge Rating System.



“It takes a village to raise a child; it takes a community to create transformative EdTech”

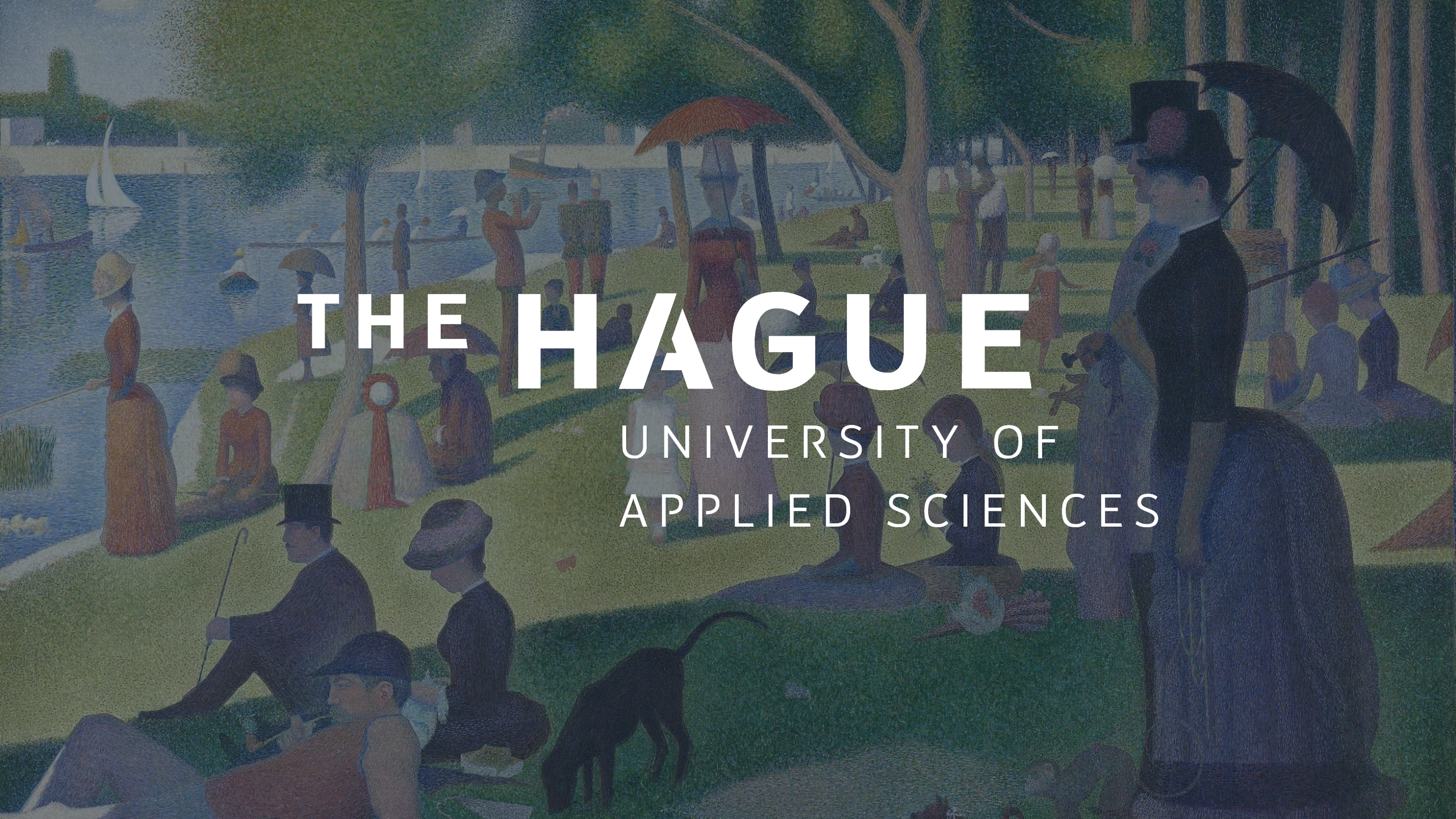
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Let's Collaborate!



let's change



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