Predictive Analytics in Action

• Recruit, admit, and offer aid to new students *(enrollment)*

• Identify students at-risk of failing *(early alerts)*

• Offer students guidance on course and degree plans *(recommender systems)*

• Help students reach course learning goals *(adaptive technologies)*
Why Ethics Matter

Closed futures

#DataEthics
Why Ethics Matter

Profile students

#DataEthics
Why Ethics Matter

Transparency
Why Ethics Matter

Privacy & Security
Predictive Analytics In Higher Education: **Five Guiding Practices For Ethical Use**

1. **Have a Vision and Plan**
   - Convene key staff to make important decisions.
   - Identify the purposes, unintended consequences, and outcomes to ensure they are in line with the plan.

2. **Build a Supportive Infrastructure**
   - Communicate the benefits of using predictive analytics and create an environment where it is embraced.
   - Develop processes to ensure change management is effective.
   - Assess institutional capacity.

3. **Work to Ensure Proper Use of Data**
   - Ensure data are complete and of high enough quality to answer targeted questions.
   - Ensure data are accurately interpreted.
   - Guarantee data privacy.
   - Monitor data security.

4. **Design Predictive Models and Algorithms that Avoid Bias**
   - Design predictive models and algorithms so that they produce desirable outcomes.
   - Test and be transparent about predictive models.
   - Choose vendors wisely.

5. **Meet Institutional Goals and Improve Student Outcomes by Intervening with Care**
   - Embed predictive-driven interventions into other student success efforts.
   - Communicate to staff and students about the change in intervention practices.
   - Recognize that predictive-driven interventions can do harm if not used with care.
   - Carefully communicate when deploying interventions.
   - Train staff on implicit bias and the limits of data.
   - Train students to use their own data.
   - Evaluate and test interventions.

For more information, visit newamerica.org/dataethics.
1 Have a Vision and Plan
Have a Vision and Plan

• Convene key staff to make important decisions

• Consider
  – the purposes, 
  – unintended consequences, and
  – outcomes to measure
# Example: Have a Vision and Plan

## Principle 1
Learning analytics is an ethical practice that should align with core organisational principles, such as open entry to undergraduate level study.

## Principle 3
Students should not be wholly defined by their visible data or our interpretation of that data.

## Principle 5
The University is transparent regarding data collection, and will provide students with the opportunity to update their own data and consent agreements at regular intervals.

## Principle 7
Modelling and interventions based on analysis of data should be sound and free from bias.

## Principle 2
The OU has a responsibility to all stakeholders to use and extract meaning from student data for the benefit of students where feasible.

## Principle 4
The purpose and the boundaries regarding the use of learning analytics should be well defined and visible.

## Principle 6
Students should be engaged as active agents in the implementation of learning analytics (e.g. informed consent, personalised learning paths, interventions).

## Principle 8
Adoption of learning analytics within the OU requires broad acceptance of the values and benefits (organisational culture) and the development of appropriate skills across the organisation.
2. Build a Supportive Infrastructure
Build a Supportive Infrastructure

• Assess institutional capacity

• Communicate the benefits of using predictive analytics and create a climate where it can be embraced

• Develop a robust change management process

#DataEthics
Example: Build a Supportive Infrastructure
Work to Ensure Proper Use of Data
Proper Use of Data

• Complete and high quality
• Accurately interpret
• Data privacy and security
4 Design Predictive Models and Algorithms that Avoid Bias
Algorithms that Avoid Bias

• Design algorithms that produce desirable outcomes

• Test and be transparent about models

• Choose a vendor wisely
Intervene with Care
Intervene with Care

• Carefully communicate to students when deploying interventions

• Train staff on implicit bias and the limits of data

• Evaluate and test interventions
Example: Intervene with Care