Using Predictive Analytics for Good: Ethical Considerations to Ensure That Analytics Help—Never Harm—Students
A Tale of Two Colleges
“This is hard for you because you think of the students as cuddly bunnies, but you can’t. You just have to drown the bunnies... put a Glock to their heads.”

Simon Newman, former president of Mount St. Mary University, on a plan convincing students to leave to raise retention rates.
“Because of these proactive interventions all students benefited, but the students who benefited the most were first generation, low-income and students of color.”

Tim Renick, vice president of enrollment management and student success at Georgia State University, on the implications of GSU’s use of predictive analytics.
NEW AMERICA’S WORK ON PREDICTIVE ANALYTICS

Find all of our reports at newamerica.org/education-policy/topics/innovation-education/predictive-analytics/
PREDICTIVE ANALYTICS IN ACTION

- **Enrollment** - Recruit, admit, and offer aid to new students
- **Early Alerts** - Identify students at-risk of failing
- **Recommender Systems** - Offer students guidance on course and degree plans
- **Adaptive Technologies** - Help students reach course learning goals
- **Facilities** – Guide colleges in offering the right classes and controlling use of resources on campus
WHY ETHICS MATTER - TRACKING
WHY ETHICS MATTER – PROFILING STUDENTS
WHY ETHICS MATTER - TRANSPARENCY
WHY ETHICS MATTER – PRIVACY AND SECURITY
1. Have a Vision and Plan
2. Build a Supportive Infrastructure
3. Work to Ensure Proper Use of Data
4. Design Predictive Models and Algorithms that Avoid Bias
5. Meet Institutional Goals and Improve Student Outcomes by Intervening with Care
Have a Vision and Plan
HAVE A VISION AND PLAN

• Convene key staff to make important decisions

Consider:
  – The purposes,
  – Potential unintended consequences, and
  – Outcomes to measure
<table>
<thead>
<tr>
<th>Principle 1</th>
<th>Principle 2</th>
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<tbody>
<tr>
<td>Learning analytics is an ethical practice that should align with core organisational principles, such as open entry to undergraduate level study.</td>
<td>The OU has a responsibility to all stakeholders to use and extract meaning from student data for the benefit of students where feasible.</td>
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<thead>
<tr>
<th>Principle 3</th>
<th>Principle 4</th>
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<td>Students should not be wholly defined by their visible data or our interpretation of that data.</td>
<td>The purpose and the boundaries regarding the use of learning analytics should be well defined and visible.</td>
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<th>Principle 5</th>
<th>Principle 6</th>
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<td>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.</td>
<td>Students should be engaged as active agents in the implementation of learning analytics (e.g. informed consent, personalised learning paths, interventions).</td>
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<th>Principle 7</th>
<th>Principle 8</th>
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<td>Modelling and interventions based on analysis of data should be sound and free from bias.</td>
<td>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.</td>
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2. Build a Supportive Infrastructure
BUILD A SUPPORTIVE INFRASTRUCTURE

• Assess institutional capacity
• Communicate the benefits of using predictive analytics
• Create a climate where it can be embraced
• Develop a robust change management process
BUILD A SUPPORTIVE INFRASTRUCTURE - EXAMPLE
CHOOSING A VENDOR

- Considerations for building your own system
  - Cost
  - People
  - Level of analysis
  - Institutional capacity to act on data

If you decide to partner with a vendor…
CHOOSING A VENDOR
CHOOSING A VENDOR

Flexible
CHOOSING A VENDOR

Transparent
CHOOSING A VENDOR

Contracts
CHOOSING A VENDOR

Security & Privacy
CHOOSING A VENDOR
Work to Ensure Proper Use of Data
WORK TO ENSURE PROPER USE OF DATA

Make sure your data is…
- Complete and high quality
- Interpreted accurately
- Private and secure
Design Predictive Models and Algorithms that Avoid Bias
ALGORITHMS THAT AVOID BIAS

• Choose a vendor wisely
• Test and be transparent about models
5 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
INTERVENE WITH CARE - EXAMPLE
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