Higher Education Working Group Meeting Notes

Friday, April 28, 2017
11:30am-12:30pm
Topic: Paper Presentation: "Structural Justice in Student Analytics, or, the Silence of the Bunnies"

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Key Points:

- Privacy and student data analytics is neither good, bad, or neutral. Administrations are responsible for creating systems that are good or bad for students.
- The "drown the bunny model" failed because of the structural injustices involved (organizational hierarchy, political economy, putting vendor needs above needs of students).
- There are better options for student data analytics that are more tailored to specific student populations.
- Information justice is central to effective student data privacy protections.

Mount St. Mary's (MD)

- President of the university wanted to survey incoming student and communicated to students that the survey was necessary in order to allow students to evaluate their learning style and perform better in a post-secondary setting.
- He then informed faculty that he wanted to use the survey to dismiss about 10% of the incoming class. He wanted to reduce the incoming class size because the structure of the federal reporting statistics and the retention rate (number of incoming students that remain for a full year) allows for student to be counted on the "census day."
- If a student is dismissed before the "census day" they do not count toward the retention rate reported to federal agencies.
- The school leader wanted to identify the students that would likely drop out before having them count negatively toward the school's retention rate.

Reaction to Mount St. Mary's dismissal survey

- Several of the faculty were alarmed by the survey because they perceived the act of trying to get student's dismissed to be unfair to students.
- The school leader responded "you think that students are cuddly bunnies but they are not. Sometimes you have to drown the bunnies but a 'glock' (handgun) to their heads."
- More disturbing than the quote was the model they were looking at.

Mount St. Mary's dismissal survey

- Hour long survey with multiple data points.
- Several themes within the survey:
    - Used psychometrics from educational psychology literature very haphazardly
    - Multiple items focused on grit and resilience. Grit has been heavily critized for being over-representative of white, middle class, students.
    - Several issues raised civil rights concerns.

- The survey contained a depression scale.
- Survey also contained questions about learning disabilities (ACA concerns), interactions with law enforcement, religious believes, religious discrimination (beyond what would be appropriate for a religious institution that fell under Title IV(A)).
- There were also "marketing questions" that were intended to find out if students were willing to pay more for education. There is no evidence that St. Mary's was using these questions for anything more than market research.

How the survey was analyzed

- Survey was then analyzed in a method that parallels other learning outlays similar to the flagship program: Degree Compass.
- Degree Compass is a predictive system that tries to identify students that are going to struggle in class and intervening early enough that they can succeed.
- Created out of a notion that students don't make good decisions about their learning (choosing classes based on not having to get up in the morning, etc.).
- Degree compass was intended to guide students to the classes they would succeed in.
- Degree compass was later commercialized.
- The results were then analyzed to put students into a "triage" intervention group
- The basic idea is to provided targeted intervention based on the "hidden populations" of struggling students.
- Key to this is the effort to "target" students that are most likely to benefit from the services
- The big concern about this is the "failed to launch" category which asserts that some students will not succeed no matter what intervention they are given.
- The system suggests not allocating resources to the "failed to launch" students and instead providing greater support to students who are in a position to succeed with additional resources.
- Not a bad idea if categories were 100% accurate but no system is perfect.
- Many institutions and platforms are promoting this "drowned bunny model" as an effective way to provide targeted academic support.

How the "drowned bunny model" works

- Academic data about a student is taken from previous educational institutions.
- That data is placed into an algorithm that predicts student success.
- The algorithm is then fed current academic performance data, data from admissions, and non-cognitive data such as grit and resilience.
- The algorithm then puts the data streams together generates predictions of individual student success.
- The predictions are then used to target intervention to the students that are likely to benefit the most (ignoring students who are predicted to already succeed and the "failure to launch" students).

Problems with the "drowned bunny model"

- The model brings students in and then refuses them resources ("failed to launch students").
- Problems with traditional privacy questions:
    - There is no data flow beyond the application. All of the information is collected and used by one entity. There are no third parties involved.
    - Students have provided consent to these surveys. students were told that they should take the survey to "find the right path to success."
- Instead of traditional privacy approaches, privacy should be thought of in a context of justice.
    - Distributed justice – society is just if we properly distribute resources equally.
    - Structural justice – consideration of how social structures and relationships impact actions and decisions about actions.
        - Helps achieve individual agency.
        - If structural justice is denied, oppression results.
- Evaluating the way that good intentions interact with structural justice allows for a more powerful view of privacy compared to more traditional approaches.

Benefits of a structural justice approach to privacy

- Puts focus on organizational hierarchy (relationship between president of university and everyone else). Individuals lower down on the hierarchy are able to use their power to resist privacy invading actions of those higher up.
- Highlights the importance of the political economy and the developmental environment behind software systems.
    - Institutions tend to use vendor provided systems which tend to apply a one size fits all approach. University cannot look "inside the box" of these systems.
    - University tends to have very different populations that may not be the same that the system was created for.
- Deeper structures are also important to think about regarding issues of privacy
    - Scientism – the blind belief that because something is scientific, it is morally right because it is the only way to get knowledge.
    - Hyper-positivism – the only way we can get legitimate knowledge is by counting things.
    - Results in "predictive dartboards" that do not provide accurate results that are completely divorced from what the data says and what it actually means
- If we assume algorithms are right because it is scientific or based on numbers then we end up repeating past largescale data disasters such as the 1930s election predictions created by literary digest.
- Overreliance on the "drowned bunny model" has critical consequences because students are at stake.

Better models of data analytics that respect privacy

- Institutionally based systems (as opposed to the "black box" vendor system use) that are specific to the population and values that comprise the student body.
- Mission based intervention should be used instead of a targeted intervention
    - Important to go beyond first year cohorts (to include transfer and spring entering students)

    - Establish a mission that is inclusive and engaged in student success for entire population
- Analytical systems that includes all stakeholders, not just the IT department

Takeaways

- Privacy and student data analytics is neither good, bad, or neutral. Administrations are responsible for creating systems that are good or bad for students.
- The "drown the bunny model" failed because of the structural injustices involved (organizational hierarchy, political economy, putting vendor needs above needs of students).
- There are better options for student data analytics that are more tailored to specific student populations.
- Information justice is central to effective privacy protections.
- Technical structures and social structures are important factors in student data analytics.

Question & Answer

Question: When you are talking about the 11% or so that are likely to fail, how do admissions play into students who may not receive the opportunity to be helped by the university because they were not accepted?

Answer: The admissions process is less concerning because we are not actually asking students to give up so much. Apart from tuition payments and expenses, students who are asked to drop out have also given up a year of their academic life. Decision processes that are human based, such as reading an essay to decide whether to admit or not, is a good use of analytics. UTU is an open admissions institution, and once we have let a student in the door there is a responsibility to help students.

Question: How would you apply your solutions and thoughts to companies for what they can do to help institutions make good student data analytics decisions?

Answer: Analytics packages (boxed software) need to be matched to the institutions. Sales should be driven by how well a system leads to student success and not the overall number of sales. Companies should focus on creating systems that help institutions make decisions and not make decisions for them.

Question: Can we formalize your work into a set of standards or rubric or is always going to be very context specific?

Answer: I am a big fan of context. A lot of what we want to do is going to be context specific. There are some hard limitations to put in place. Surveys should be informed about the uses of information gathered from them. There should be some helpful guidelines for designing a system that is context appropriate for a institutions. Involvement of all stakeholders should always be a key feature of effective student data analytics systems

Amelia Vance (FPF)

Updates

- The higher education working group is moving to monthly calls. Please fill out the survey on which day works best for your schedule.
- FPF is relaunching the FERPA SHERPA website with additional features so be on the lookout for information regarding the launch and check it out. The beta site is live, please take a look and share any feedback.
- If you would like to blog for the website please reach out.