#AItraining

ASSESSING THE EFFECTIVENESS OF YOUR RETENTION PROGRAMMING

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ACADEMIC IMPRESSIONS

LEARNING OUTCOME

After participating...

...you will be able to better connect student outcomes data to programmatic decisions.

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INTRODUCTIONS

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THIS SESSION IS...

- A training about what questions to ask to drive an evaluation of retention efforts/programming
- Focused on compiling and reviewing data
- About driving decisions with data
- Centered around Student Affairs programs, initiatives, policy, and efforts
- Meant to generate ideas and offer some solutions

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THIS SESSION IS NOT…

- A statistical methods training
- A discussion of ways to evaluate academic degree programs
- A single, one-size-fits-all, silver bullet
- A lecture…feel free to ask questions or add a comment in the chat, and please join in on the polling questions.

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AGENDA

- **Getting your data**
  - Identifying needed data and partners who gather and/or store it
  - Primary and secondary data sources
  - Aligning research questions with available data
- **Understanding your data: Two working examples**
  - Descriptive statistical results
  - Multivariate regression analysis results
  - Overview, methods, interpretation, and results of each
- **Making data-informed decisions**
  - Finding nuance in the data
  - Translating results into programmatic decisions

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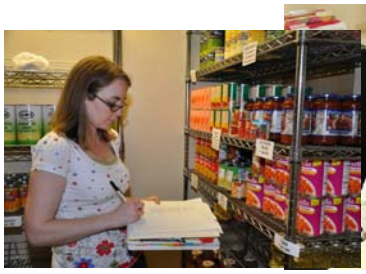
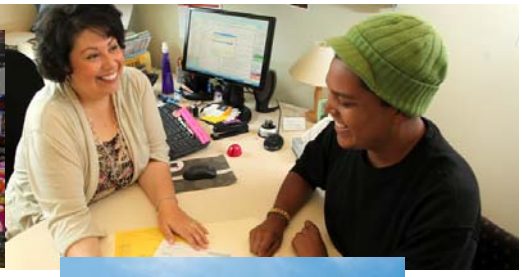
RETENTION ...THE GOAL





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...Where the data live is only the tip of the iceberg!

GETTING YOUR DATA

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SOME QUESTIONS TO ASK

- What data are needed to understand if this program is working?
- Do we collect the needed data and where is it stored?
- What are essential pieces of information?
- What are of secondary importance?
- Beyond our program participation, what factors will be important for us to know about our participants?
- What other influences on retention do we need to account for in our analysis?

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CHAT

Name one retention effort you are currently wanting to assess.

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CHAT

What are some of the most important predictors of retention?

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POLL

What kind of student data do you have access to?

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POLL

Who is (or will be) the primary person or office doing the work of evaluating the effectiveness of your retention efforts?

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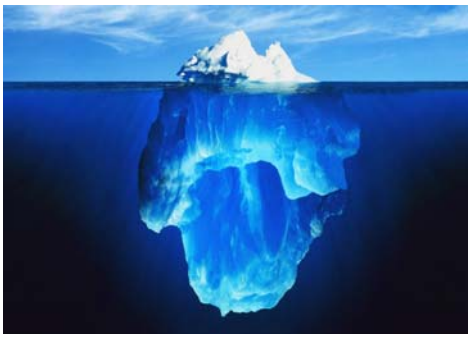
DATA AVAILABILITY



- Who has what data?
- Who is doing the analysis?
- Data Sharing Culture
  - Beyond data collection
  - Transparency
  - Territory/Gatekeeping
  - Data integrity
  - Storage systems "talking" to each other
  - Skill sets

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PARTICIPANT/ NON-PARTICIPANT

- Program Records of frequency, duration, depth = dosage
  - Vendor software
  - Local data base
  - Excel sheet
  - Paper roster!!

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PRIMARY

- Student System Records
  - Demographic data
    - Age
    - Geographic
    - Gender
    - Ethnicity
    - Major/Interest
  - Academic Records
    - Coursework
    - GPA/Probation
    - Enrollment/Retention
    - Attempted hours
    - Earned hours
    - Major
    - College

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SECONDARY

- Applications
  - Admission
  - FAFSA
  - Program
- Survey/Research
  - Psychosocial
  - Interest inventory (ACT/SAT files)
- Engagement Data

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QUESTIONS

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UNDERSTANDING YOUR DATA & MAKING DATA-INFORMED DECISIONS

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OVERARCHING QUESTIONS TO ANSWER

- Is your retention effort (program, policy, initiative) effective?
- Does your program work?
- Do your participants retain at higher rates? (Higher than whom?)
- Does it contribute to overall retention at your institution?
- Do all students affected by your effort retain at higher rates than similar non-participants? If not, does some subset?

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KEY QUESTIONS TO ANSWER

- Do students in your program retain at higher rates than they would have without participating in the program?
- Do you have a big enough number of students in your program who benefit from the effort to "move the needle" on your institution's retention?

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WHAT'S THE INTENT OF THE PROGRAM?

- Retain more of all your students
- Retain more of a particular group of students:
  - First Generation
  - Males
  - New Transfer
  - High Achieving
  - International
- Retain more within a specific time period
  - First year freshmen to the spring term
  - Transfers to the 2nd year
  - 4th year seniors who did not graduate to their 5th year

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OTHER CONSIDERATIONS

- Purpose of the effort
  - Social connection
  - Academic integration
- Learning outcomes
  - Self regulation
  - Educational goal setting
- Expected results
  - Evidence of parallel efforts at similar institutions
  - Historical results at your institution

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EXAMPLE ONE: DESCRIPTIVE / UNIVARIATE

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OVERVIEW

FIRST GENERATION SUPPORT: FIRST JACKS

- Exposure: Weekly emails before the semester begins explaining key terms (e.g., bursar, syllabus, "GPS", "Jack's Planner") and processes (e.g., financial aid disbursement, course wait lists, buying books, etc.)
- Live chat Q & A: during the first week of classes, quick reference for navigation, resource use, using LMS, etc.
- First term peer mentoring

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RESULTS: PARTICIPANTS VS. ALL ELIGIBLE

PARTICIPANTS

- n = 488
- Retained to fall = 80%

COMPARISON POPULATIONS

- All freshmen
  - n = 6038
  - Retained to fall = 68%
- All first generation freshmen
  - n = 5448
  - Retained to fall = 72%

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LIMITS

- Do all freshmen who are first generation reflect the same group who participated?
- Who participated and how can we compare their results to a more similar group than the overall eligible population?

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WHO PARTICIPATED?

- All freshmen
- All first generation
- Higher proportion of females
- Average HS Core GPA (=)
- Mix of majors
- No data on who lived on campus
- Slightly lower proportion of ethnic minority

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RESULTS: IMPORTANT VARIABLES

PARTICIPANTS

- n = 488
- Retained to fall = 80%

- n = 390 females
- Retained to fall = 79%

- n = 98 males
- Retained to fall = 81%

NON-PARTICIPANT POPULATIONS

All female first generation freshmen
•n = 2319
•Retained to fall 74%

All male first generation freshmen
•n = 2641
•Retained to fall 68%

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KEY QUESTIONS

QUESTION #1

Does the program have an effect on participants' retention above and beyond the existing characteristics of participants?

QUESTION #2

Does the program "move the needle" on institutional retention?

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QUESTION #1

Q: Does the program have an effect on participants' retention above and beyond the existing characteristics of participants?

Ans: Yes, beyond gender and first generation status (meaning neither gender nor not being first gen appear to be causing the higher retention rate of the group)

Ans: Unknown effect beyond other variables (meaning ethnicity, in/out state residency, major, and low income not controlled in the data)

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POLL

MAKING DECISIONS

Which of the following is a decision you might make based on the data?

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QUESTION #1

WHAT ELSE NEEDS TO BE FACTORED IN?

- Comparison Groups
  - Academic preparation
  - Ethnicity
  - Living on campus
  - Income/Financial support
  - Residency
- Within the Participant Groups
  - Level of participation ("dosage")
  - Timing of participation

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QUESTION #2

Q: Does the program "move the needle" on institutional retention?

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QUESTION #2

Population	Goal -- % Increase	
6000	1%	5%
4000	1%	5%
2000	1%	5%
1000	1%	5%
500	1%	5%
100	1%	5%

Population	Goal -- % Increase	
6000	1%	5%
4000	1%	5%
2000	1%	5%
1000	1%	5%
500	1%	5%
100	1%	5%

Population	How many more	
6000	60	300
4000	40	200
2000	20	100
1000	10	50
500	5	25
100	1	5

Population	How many more	
6000	60	300
4000	40	200
2000	20	100
1000	10	50
500	5	25
100	1	5

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QUESTION #2

Q: Does the program "move the needle" on institutional retention?

Ans: Yes!

- 488 at the regular rate (72%) = 351 retained
- 488 at the intervention rate (84%) = 410
- +59 more students = roughly 1% of 6,038
- Retention would move from 68% to 69%

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POLL

MAKING DECISIONS

If we want to move the needle 2 percentage points more, what decision can we make for next year that puts us in a good position to accomplish this?

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ANOTHER KEY QUESTION

QUESTION #3

Does the program appear to positively impact the retention of participants when compared to the retention of similar non-participants?

This requires multivariate analysis.

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EXAMPLE TWO: MULTIVARIATE

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OVERVIEW

PEER MENTOR PROGRAM FOR SECOND SEMESTER TRANSFER STUDENTS

Key student attributes:

- Academic performance (fall semester GPA)
- Progress in degree/overall earned credits
- Demographics
- Psychosocial measures

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METHODS

- Regression techniques
  - Logistic
  - Linear
  - Group Balancing
    - Propensity Score Matching
    - Entropy Matching

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RESULTS

Groups Balanced on:

- Gender
  - 54%/ 52% Female
- Ethnicity
  - 25%/ 27% EM
- Academic performance
  - 3.01/ 3.06 1st term GPA
- First Generation
  - 33%/ 32% FG
- Psycho-social measures
  - 4.05/ 4.25 Academic Self Confidence
  - 5.01/ 4.86 Social Engagement

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RETENTION

PARTICIPANTS

Retention from spring to fall is 88%

NON-PARTICIPANTS

Retention from spring to fall is 83%

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QUESTIONS

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MAKING DECISIONS

- Is the program working? Would you want to keep it, expand it, etc.?
  - Yes
- Who is participating and are there more students in the group who might participate?
  - Saturated
  - Available pool of students
- Do we have the funds?
  - Can we use the difference between two groups for ROI analysis?

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MORE COMPLEX RESULTS

When you don't have matched or balanced groups…

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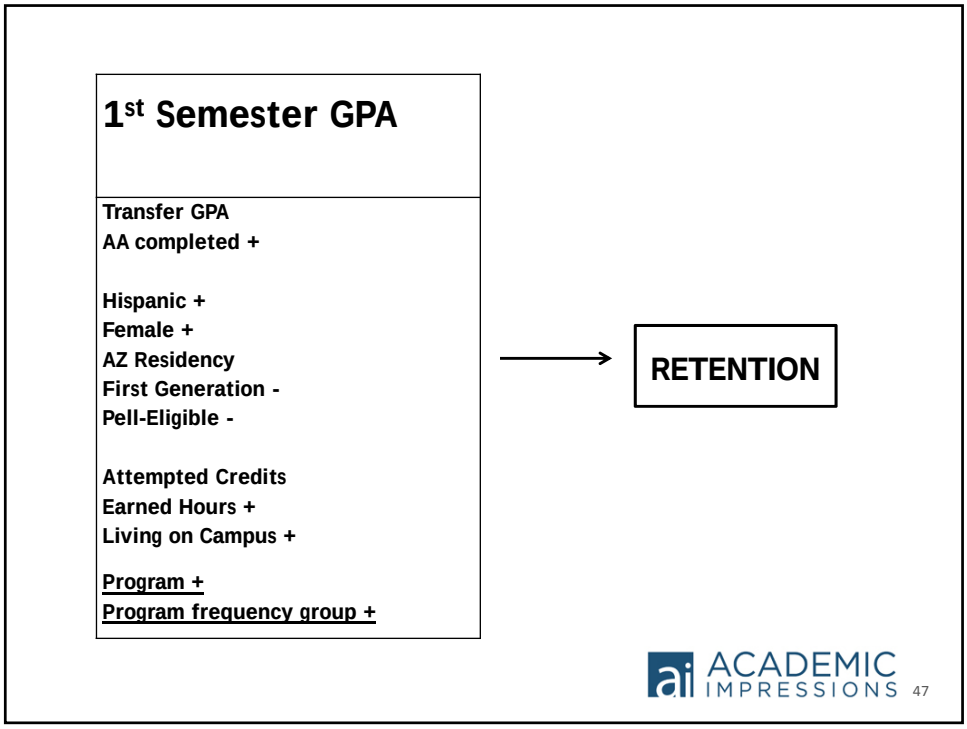

DIFFERENT RESULTS FOR NEW FRESHMAN

VARIABLES GROUPED IN BLOCKS

- Academic Prep
- Demographics
- Engagement

…the impact of each variable can be determined.

A more complex set of results include odds ratios to convey size of impact.

Regression Analysis One Year Retention for the Fall Cohort	
	One Year Retention
N = 2899	Impact on Odds of Retention
Prior Academic Performance	
HS GPA	3.16
ACT/SAT Score	0.98
Math Deficiency	0.75
English Deficiency	0.57
Lab Science Deficiency	0.79
Demographics	
AZ Residency	0.87
Gender (Female)	0.88
IPEDS Ethnicity (White)	
Grp 1	0.61
Grp 2	1.28
Grp 3	0.65
Grp 4	1.05
Grp 5	1.00
First Generation	0.67
Low Income	0.79

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College Experiences	
Pre-Enrolled	1.02
Attempted Hours	1.12
Living On-Campus	1.46
LC Honors Student	0.74
LC Visits	1.03
Scholars Visits	1.09
OS Mentoring Visits	1.06
FG Visits	1.03
Bridge Visits	0.94
Tutoring Visits	1.01
Grp Tutoring Visits	1.04
Coaching Visits	1.03
Course 100	1.08
Course 150	0.30
Course 150 Mentoring Visits	1.15
FY Courses	0.94
Major Seminar Courses	0.81
ARTS Courses	1.18
Honors Student	2.21

Highlighted cell indicates statistically significant result (p<.10)

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ANSWERS TO KEY QUESTIONS

Q: Does the program contribute to retention?

Ans: Matched/balanced groups can answer

Q: How does the program's influence compare to the influence of other variable (including other programs)?

Ans: Need more regression or other analysis with individual program results

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CHAT

MAKING DECISIONS

- Which program has the biggest effect?
- Which other factors are the most importance influence on our students' retention?
- Does frequency of participation matter?

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OTHER CONSIDERATIONS

- Retention is often a "far off" measure
- Milestone indicators
  - Learning & Development
  - Frequency
  - Depth
  - Academic performance
    - Earned hours
    - GPA
    - Progress toward degree
  - Intent to return

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CHAT

Name one variable you will be sure to include in your analysis as a result of today's session.

Name one resource you will look into that might help you build on today's knowledge.

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RESOURCE

Trainings

1. AIR
2. CRSDE
3. Percontor (Porter & Umbach) Online methods workshops

("Introduction to Matching and Propensity Score Analysis" see website for list)

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QUESTIONS

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EVALUATION

Thank you!

Please remember to complete the event evaluation. Your comments will help us continually improve the quality of our programs.

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