The Bloomington Assessment and Research Office **(BAR)**
The Center for Learning Analytics and Student Success (**CLASS**)

Office of the Vice Provost for Undergraduate Education, Indiana University Bloomington

Learning Analytics and Course Transformation: A Match Made in Data"

TRESTLE Brown Bag

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Session Goal

To provide a framework for using learning analytics to assist course transformation initiatives, taking advantage of this new "evidence of student learning" before, during and after courses have been redesigned and taught.

# Indiana University's Learning Analytics Fellows

Change Strategy

- Top-down, bottom-up and middle-out
- Faculty engagement with the application of learning analytics
- Ownership of student success
- Communities to advance change
  - Faculty Learning Communities (FLC)
  - Communities of Transformation (CoT)
  - Communities of Practice (CoP)
  - Network Improvement Communities (NIC)

Rehrey, G., Groth, D., Shepard, L., Hostetter, C., & Fiorini, S. (2018). Implementation of Learning Analytics Fellows Program. Presented at the 8th International Learning Analytics and Knowledge (LAK) Conference, Sydney, Australia.

The Bay View Alliance Learning Analytics Research Community (LARC)
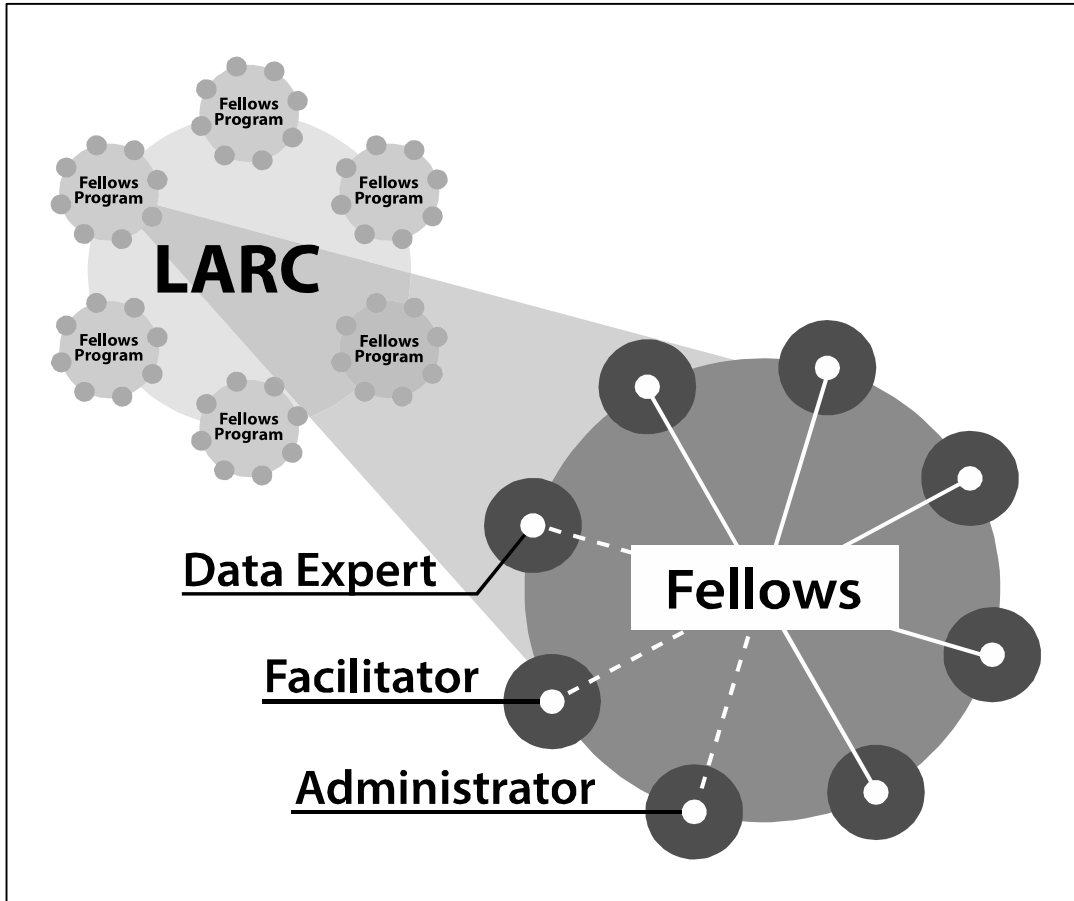
Empowering faculty to use LA in their own teaching, learning and student success research as a means for establishing a **data-informed** culture in higher education.

- **Awareness** – Framing questions
- **Understanding** – Analyzes answers
- **Action** – Develop interventions
- **Reflection** – Measure impact

Molinaro (2018)

What is learning analytics?

Learning Analytics (LA) is the measurement, collection, analysis and reporting of data about learners and their contexts for purposes of understanding and optimizing learning and the environments in which learning occurs (SoLAR, 2011).

Big Data generally refers to data sets that are so large or so complex that it is challenging to make practical use of them. Often they exist in more than one repository.

Learning Analytics at Indiana University Bloomington

Learning Analytics (LA) is the measurement, collection, and analysis of data about and **with** students for the purpose of improving teaching, learning and student success at the course, program and institutional levels.

Student Success: Students arrive at college properly prepared, choose an appropriate career path in a timely manner, and graduate within 4-6 years.

Typical Data Sources

- Student Information Systems (SIS)
- Learning Management Systems
- Student Activity Systems
- Student Support Services
- GPS Tracking

From Hindsight to Foresight

What
occurred?

**Descriptive
Analytics**

Why did it
occur?

**Diagnostic
Analytics**

What might
occur?

**Predictive
Analytics**

What are
suggesting to
occur?

**Prescriptive
Analytics**

*Foresigh*t

Hindsight

Adapted from Otholt (2019). Advanced Analytics Conference, Pittsburg, PA**.**

CRAM Data Dashboards

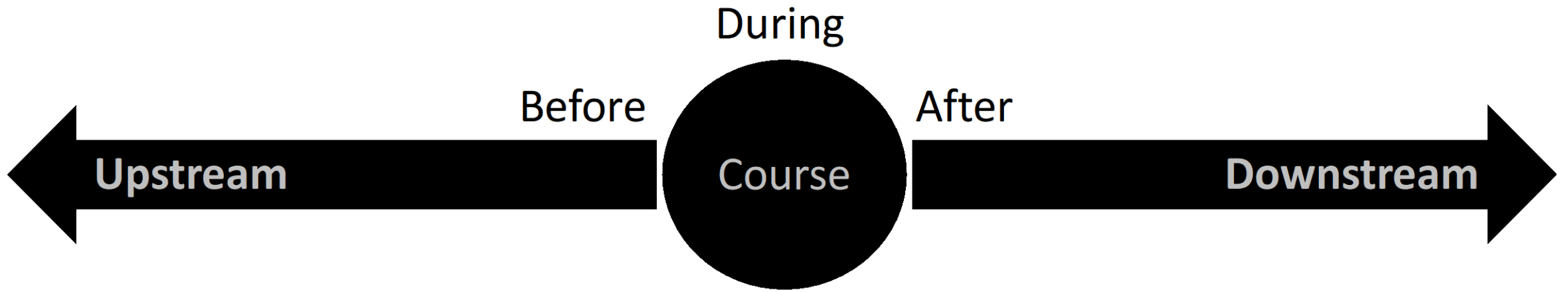|	
Course	All course taken by a student, may include pre-college courses, curricula requirements, remedial education programs
Retention	Student persistence, graduation rates, GPAs
Attributes	Student demographics such as race, ethnicity, class standing, economic status
Majors	Choice and change of majors, inflection points, graduation pathways

Breakout

If you had access to this student data, what type of questions would you want answers to when redesigning or assessing a redesigned course?
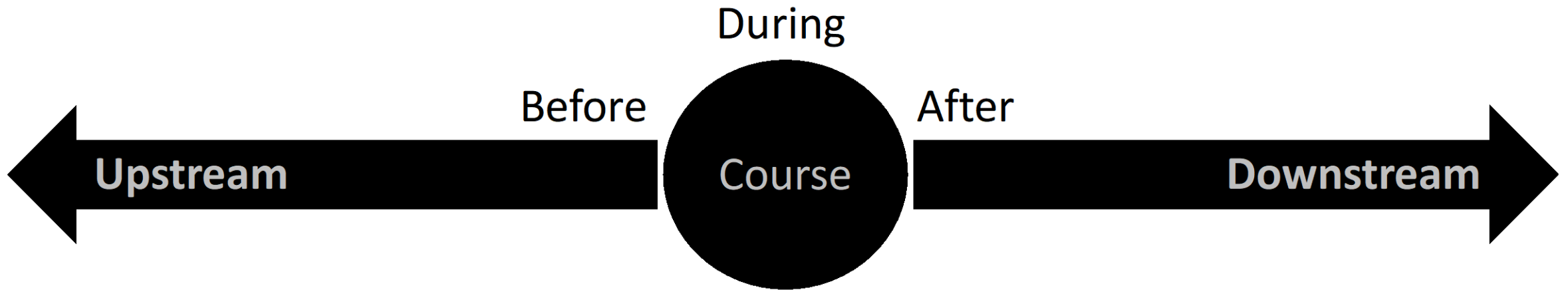
CRAM Data Dashboards

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Before — During — After

Upstream ← Course → Downstream

Who are the students taking my course?

How did they they perform in courses related to mine?

Can I predict how well certain types of students will do in my course?

Can a I create interventions to help them do better?

How are students performing in the course compared to students in past courses?

Are the interventions currently helping?

How did students perform in the transformed course compared to the original course?

How well did students perform in the courses they took after mine?

Did they remain in the program?

One Story

Questions, Suggestions, Concerns, Ideas?