

Data-Informed Course Design and the DEI Imperative

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Learning Outcomes

LO1 - Articulate institutional rationale for adopting data-driven course designs

LO2 - Identify key stakeholders for designing a data-driven curricular redesign model

LO3 - Discover institutional data sources or data gaps needed to assess equitable learning by student subgroups

LO4 - Explore methods of empowering wide-reaching data streams to inform course enhancements

Attendees will leave with guidance about the importance of **cross-team collaboration, reporting, and visualization techniques** for achieving this goal at their colleges and universities.



Why Data Are Important

“It is impossible to redesign students to fit into a system, but we can re-design a system for students. This can be the difference between success or failure for our students that need the promise of higher education the most.” (Joseph South, 2017, Office of Ed Tech, US DOE)

“You can’t manage what you don’t measure.” - commonly attributed to Peter Drucker

"The future of higher education will reward those institutions who utilize data-informed practices as the basis for strategic and operational decisions. There is an opportunity to question everything and re-evaluate our practices through a new lens and unlearn ways that no longer serve our students or institutions. Disaggregating and democratizing data, for example, may reveal hidden biases leading faculty to a reconsideration of approaches to achieve greater equity and student success in the classroom."

- Christina Royal, Holyoke Community College (MA) President

Educational Model



Academic & Instructional Design Partnership

Defining course/content performance

(aggregated by course code over any specified time frame)

- Research questions
 - Is the content supporting student achievement?
 - Is the content supporting student engagement?
 - Are the questions and content well constructed against best practices?
- Correlation between content usage and student performance
- Consider sorting your data by filtering:
 - Course delivery model
 - Course code
- View types
 - By week
 - By resource type (discussions, assignments, e.g.)
 - By assessments: final grade > assignments > discussions



DEI Lens

Ethnicity	2014	2015	2016	2017	2018	2019	2019 %
Nonresident alien	1	1	3	4	3	2	0%
Black or African American	165	201	176	185	213	194	16%
American Indian or Alaska Native	2	2	2	2	3	2	0%
Asian	8	14	11	14	16	9	1%
Hispanic of any race	176	255	262	271	257	271	23%
Native Hawaiian or Other Pacific Islander	2	4	4	1	1	1	0%
Two or More Races	15	22	33	31	33	23	2%
White, non-Hispanic	504	598	652	708	703	653	55%
Race/ethnicity unknown	62	61	56	54	39	34	3%
Students of Color	368	498	488	504	523	500	42%
Total	935	1158	1199	1270	1268	1189	

Full-Time vs Part-Time	2014	2015	2016	2017	2018	2019	2019 %
Full-Time	670	798	752	718	735	568	47.8%
Part-Time	265	360	447	552	533	621	52.2%
Total	935	1158	1199	1270	1268	1189	

First Generation Students	2014	2015	2016	2017	2018	2019	2019 %
First Generation Students	616	852	598	625	580	555	46.7%
Reported - Not First Generation	250	282	466	436	436	417	35.1%
Unknown	69	24	135	209	252	217	18.3%
Total	935	1158	1199	1270	1268	1189	

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Course Experience Stakeholders



Maximizing Internal Expertise

Academics + Instructional Design

- Identify stakeholders
- Define data
- Define Key Performance Indicators (KPI)
- Utilize dashboard data for course design efforts

Registrar

- Establish academic calendar
- Track curricular changes at the program level

IT

- Design data model
- Maintain information repository
- Customize reports to visualize KPIs

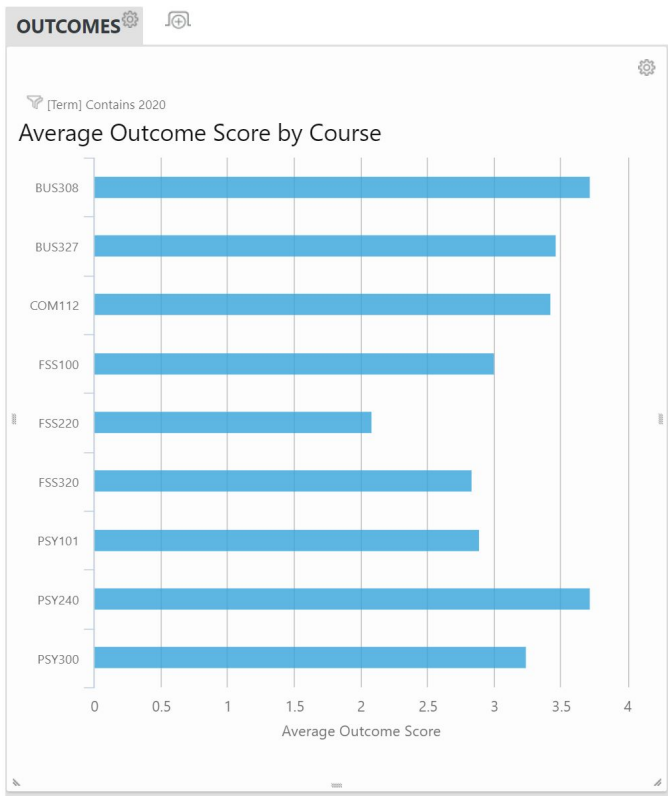
Advising

- Coordinate Early Alert efforts
- Outreach students that may be falling behind

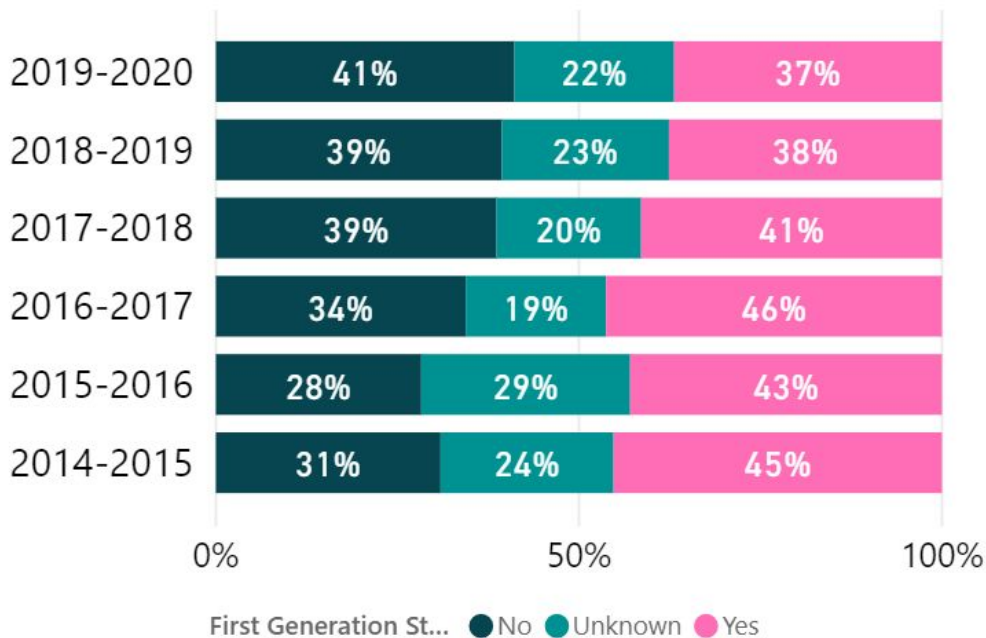
IR

- Compile institutional data
- Maintain institutional data
- Provide reports/visuals of institutional data

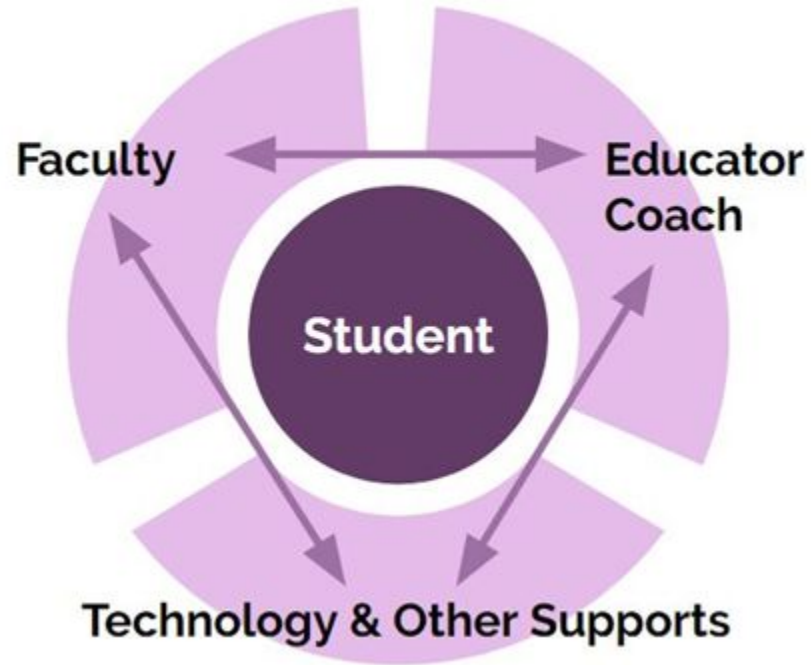
IR Partnership



Enrollment by First Generation Status



Advising Partnership



IT Partnership

- **Data analyst** - building dashboards / exports
- **IT Director** - investigating data sources
- **IT Help Desk** - IT tickets/ tagging/escalating

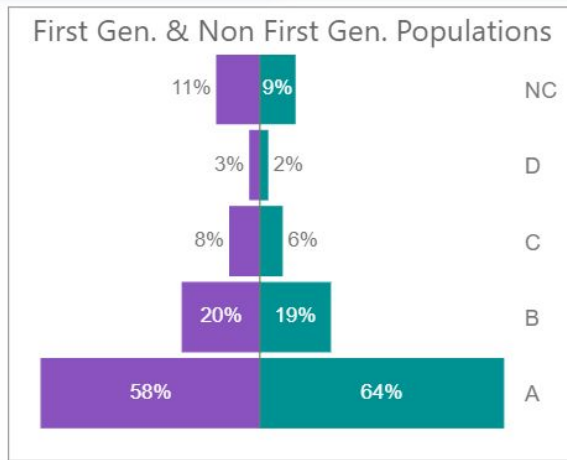
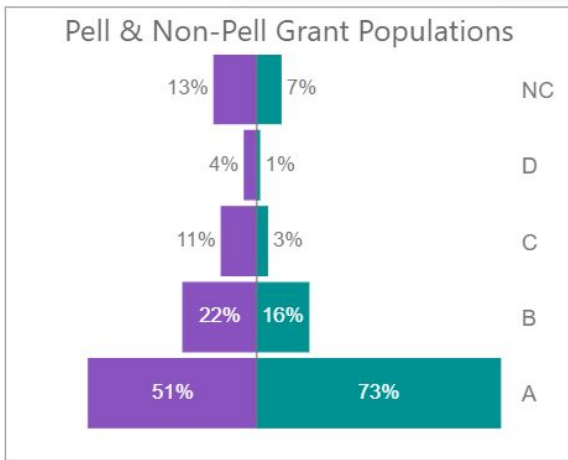
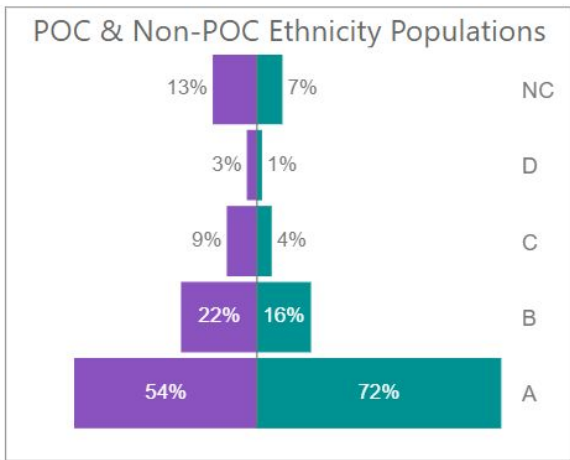


Course Grade Analysis

A SUMMARY OF GRADES BY STUDENT POPULATIONS



Division All	IPEDS Race/Ethnicity All	Course Code All
Academic Year All	First Generation All	Pell Eligible All



Average Central Tendency Population

2.97 POC	3.38 Non-POC	2.91 Pell YES	3.41 Pell NO	3.07 First Gen. YES	3.23 First Gen. NO
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Data Sources

Level I Data Sources

- End-of-course evaluations
- Final grades and DFW rates; retention rates
- High impact courses, gateway courses

Level II Data Sources

- Learning Management System (LMS) data
 - Timeliness of submissions
 - Large number of messages in LMS
- IT tickets
- Advising input

Level III Data Sources

- Outputs from external vendors/applications



Additional Considerations

Create an **information repository** to reflect the data model

- Where will your data live?
- How will you create a usable course-level output from various sources?

Design and customize **reports** to visually demonstrate KPI attainment

- How and where will you document curricular enhancements and the rationale so that you can gauge whether student learning is actually enhanced?



Continued Evolution at BPU

- Merger of 'continuing ed' and traditional residential model
- Two federal grants, Title III and FIPSE
 - Alignment of core with Mass Transfer agreement
 - Career-related course redesigns with required course elements
 - Career-related learning activity
 - Grading rubrics
 - Program or course-level assessment rubrics
 - Revised assignment using TILT methodology
 - Faculty Fellows
 - What is your RQ? What do you want to know about your course's performance
 - Use of data
 - IDs will partner with IE Office

Thank you!

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