

Modern Learning Analytics in Higher Education

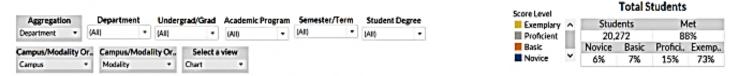
Business Challenge

Private University was challenged with limited information related to course, department and program outcomes that is necessary for student achievement and accreditation.

Solution

- PLO (Program Learning Outcomes) Dashboard: used for accreditation: Provides course learning, program, combined major, and accreditation outcomes.
- Learning Management Datamart: created to support learning analytics that involved engineering a data ecosystem across four data sources.

PLO Achievement by Program: Section and Curriculum Variables



Total % Mot Custoome

PLO Achievement by Program, Section, and Curriculum Variables

Boston Hybrid	BS Advanced Manufacturing Systems	Spring 2022 CPS Sem.								
		Spring 2022 CF3 3ent.	8	100%					100%	
	B5 Analytics	Fall 2022 CPS Semest.	3	67%	33%			67%		
	BS Biological Science	Fall 2022 CPS Semest	23	83%	9% 9%	30%		52%		
		Spring 2022 CPS Sem.	19	84%	16%	42%		429	8	
		Fall 2021 CPS Semest.	23	78%	9% 13%	26%		52%		
	BS Biotechnology	Fall 2022 CPS Semest.	23	83%	9% 9%	30%		52%		
		Spring 2022 CPS Sem.	29	46%		46%	9%	23%	23%	
		Fall 2021 CPS Semest.	23	78%	9% 13%	26%		52%		
	BS Information Technology	Fall 2022 CPS Semest	39	86%	14%		84%	_		
		Spring 2022 CP5 Sem.	19	80%	15% 5%	5%	75	5%		
	DLP Law and Policy	Fall 2022 CPS Quarter	19	100%					100%	
		Spring 2022 CPS Quar.	. 17	82%	18%	29%		53%		Ξ
		Winter 2022 CP5 Qua.	13	100%					100%	
		Fall 2021 CPS Quarter	13	100%					100%	
	MA Homeland Security	Fall 2022 CPS Quarter	10	100%	20%		80%			
		Spring 2022 CP5 Quar.	. 15	100%					100%	
		Winter 2022 CPS Qua.	. 12	100%					100%	
		Fall 2021 CPS Quarter	15	100%	7%		93%			
		Winter 2021 CP5 Qua.	16	100%	19%		81%			
	MA Security and Intelligence Studies	Fall 2022 CPS Quarter	35	82%	18%	12%	12% 70%			
	MA Strategic Intelligence & Analysis	Fall 2022 CPS Quarter		77%	23%	13%		63%		
		C-III OOOA COC O		700	0% 10% 20	0% 30% 40%	50% 60%	5 70% 80	0% 90% 100	

Approach

- Architect a Cloud data platform and integrate multiple data sources via application and data integration
- Work with stakeholders to define and develop dashboards and reports.
- Design & implement Data Science sandbox on the Snowflake Data Cloud for Alumni Relations organization
- Deliver data design patterns for learning analytics and RFM Modeling, user experience, data pipeline ingestions and user access and control

Business Value

- An approach to examine student learning and achievement
- Analytical insights to drive better learning outcomes and increased efficiencies in the accreditation process
- Ability to provide feedback to faculty to allow Client to improve course and programs delivery