LEARNING ANALYTICS FROM A SYSTEMS PERSPECTIVE

Online Teaching and Learning Research Seminars Program

Ecampus Director's Meeting
February 25, 2021

Oregon State University

Perceptions of Learning Data in Higher Education

10 researchers from 8 Universities

ecampus.oregonstate.edu/research/opportunities/online-teaching-learning-research-seminars/cohort/

Methodology

Virtual Interviews:

March – November 2020

59 interviews

~36 questions

Stakeholders:

- Administrators
- Coaches/Advisors
- Data analysts
- Diversity and Inclusion Leaders
- Instructional Designers
- Faculty
- Students

Bias in Learner Data

- To what degree are you concerned with issues of bias in the uses of learner data?

- Student Perspective (n = 20)

- 6 Categories:
    1. Degree of Concern (18)
    2. Bias Decisions in Learning Data Analysis (10)
    3. Specific Identity Markers (5)
    4. Limitations of Learner Data (5)
    5. Relationship with Stakeholders (4)
    6. Non-Learner Data (2)

Issues of Equity

"Oh, I see. I'm not very concerned with it."

"I'm definitely concerned."

8 student respondents expressed minimal or no concern

1 student respondent made an explicit statement demonstrating a strong or high level of concern.

n = 20

Data Literacy & Application

- Focused on how administrators and faculty framed their understanding and application of institutional data systems.

- **Analysis Method: Thematic Coding**
  - Full Interviews as Corpus
    - (n = 15)
      - 5 Administrators
      - 10 Faculty

Data Literacy: Results

What support do faculty say they need?

- Training in statistics
- Workshops and learning from peers
- Best practices for using learning data

How confident are faculty?

- Few indicate high levels of confidence in use of learning data
- Lack of confidence in the data

What skills are most important?
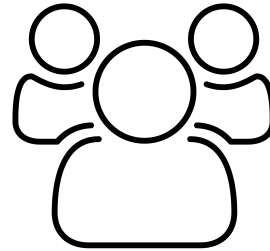
- Open mindedness
- Self-reflection

Category	References
Data Applications	219
Limitations of data	115
Data Expertise	54
Measures of engagement	48

Data That Should And Should Not Be Collected

- **Learning analytics:** Easily accessible data + actionable solutions

- **Data privacy**

- **Trustworthiness** involves involving those who the data are concerned
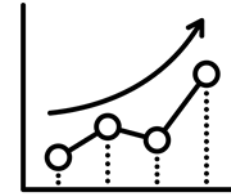
Domain of data

People with privacy related to that data

Other people with access to that data

Student and Faculty Perceptions of Data That *Should* and *Should Not* Be Collected

Code	Learner Data (data about students)				Instructor Data (data about faculty)			
	Should Be Collected		Should Not Be Collected		Should Be Collected		Should Not Be Collected	
	% of students (N=20)	% of faculty (N=10)	% of students (N=20)	% of faculty (N=10)	% of students (N=20)	% of faculty (N=10)	% of students (N=20)	% of faculty (N=10)
Demographic information		20%	30%	20%			30%	20%
Student satisfaction	50%	60%			40%			
Instructor satisfaction						20%		
Student performance	50%	40%	25%					
Teaching performance	20%	20%			95%	90%		
Instructor qualifications					20%			
Student engagement	30%	30%				20%		
Student educational history				30%				
Personal life information				40%			15%	

Barriers to Access and Use

Stakeholder Groups
- 10 Faculty, 8 Instructional Designers, 4 Coaches/Advisors

Interview Questions Coded
- What barriers exist to the collection, analysis, and use of data at your institution? (FA, ID, CA)
- What do you consider to be the most challenging component of using data to improve learning and the student experience? (FA, ID, CA)
- Do you personally have concerns about accessing learning data? (FA)
- Do you have difficulty accessing data that you think you need to assess your students' learning? (FA)
- Do you have access to the data that you need about students' learning? (ID, CA)

Barriers to Use and Access

	Data Literacy	No Process / No Strategy	It Takes Time and Effort	Availability of Useful Data	Philosophical Resistance	Privacy / Security / Misuse
Faculty (n = 10)	60.0%	30.0%	30.0%	100.0%	30.0%	30.0%
Instructional Designers (n = 8)	25.0%	75.0%	37.5%	100.0%	25.0%	12.5%
Coaches (n = 4)	75.0%	50.0%	25.0%	75.0%	50.0%	50.0%
Total (n = 22)	50.0%	50.0%	31.8%	95.5%	31.8%	27.3%

Attitudes Toward Access to Learning Data

	Have Access & Satisfied	Have Access, not Satisfied with Data	No Access, Satisfied with Data	No Access, not Satisfied with Data
Faculty (n = 10)	80.0%	20.0%	0.0%	0.0%
Instructional Designers (n = 8)	12.5%	50.0%	12.5%	25.0%
Coaches (n = 4)	0.0%	75.0%	25.0%	0.0%
Total (n = 22)	36.4%	40.9%	9.1%	9.1%