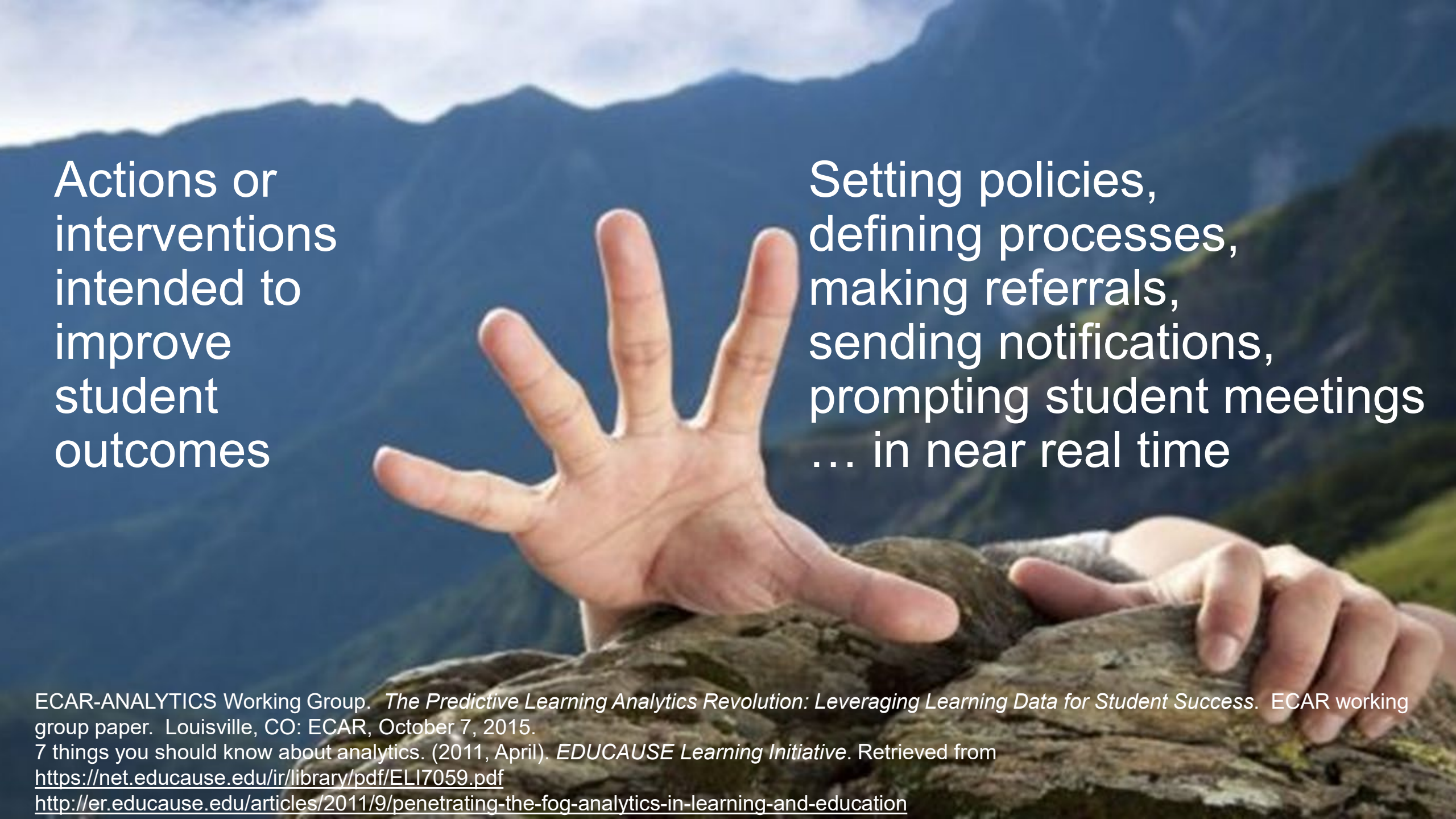
Learning Analytics Definitions

the “collection and analysis of usage data associated with student learning. The purpose of [learning analytics] is to observe and understand learning behaviors in order to enable appropriate interventions.”

EDUCAUSE Learning Initiative. (2011, April). *Learning analytics: The coming third wave* (brief). Louisville, CO: EDUCAUSE. Retrieved from https://library.educause.edu/~/media/files/library/2011/4/elib1101-pdf.pdf

“the measurement, collection, analysis, and reporting of data about learners and their contexts, for the purposes of understanding and optimizing learning and the environments in which it occurs.”

Conole, G., Gasevic, D., Long, P., & Siemens, G. (2011). Message from the LAK 2011 general & program chairs. *Proceedings of the 1st International Conference on Learning Analytics and Knowledge*, LAK 2011. Banff, AB, Canada.



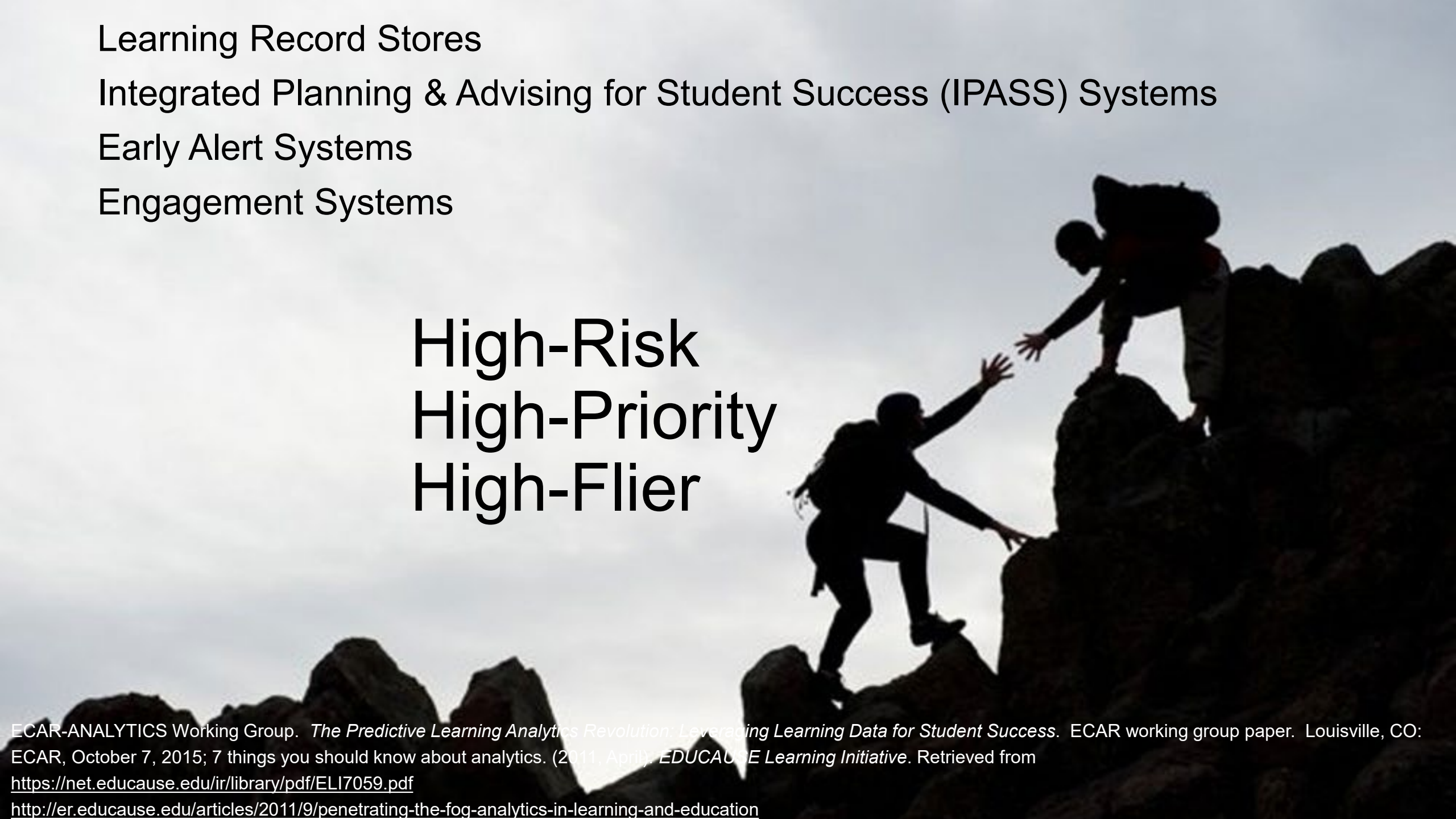
ECAR-ANALYTICS Working Group. *The Predictive Learning Analytics Revolution: Leveraging Learning Data for Student Success*. ECAR working group paper. Louisville, CO: ECAR, October 7, 2015.
7 things you should know about analytics. (2011, April). *EDUCAUSE Learning Initiative*. Retrieved from https://net.educause.edu/ir/library/pdf/ELI7059.pdf
http://er.educause.edu/articles/2011/9/penetrating-the-fog-analytics-in-learning-and-education

Learning Record Stores

Integrated Planning & Advising for Student Success (IPASS) Systems

Early Alert Systems

Engagement Systems



High-Risk
High-Priority
High-Flier

ECAR-ANALYTICS Working Group. *The Predictive Learning Analytics Revolution: Leveraging Learning Data for Student Success*. ECAR working group paper. Louisville, CO: ECAR, October 7, 2015; 7 things you should know about analytics. (2011, April). *EDUCAUSE Learning Initiative*. Retrieved from https://net.educause.edu/ir/library/pdf/ELI7059.pdf

http://er.educause.edu/articles/2011/9/penetrating-the-fog-analytics-in-learning-and-education

improve how education is delivered

identify learners who can benefit from interventions

provide learners with insight into their own learning habits

ECAR-ANALYTICS Working Group. The Predictive Learning Analytics Revolution: Leveraging Learning Data for Student Success. ECAR working group paper. Louisville, CO: ECAR, October 7, 2015.
7 things you should know about analytics. (2011, April). EDUCAUSE Learning Initiative. Retrieved from https://net.educause.edu/ir/library/pdf/ELI7059.pdf
http://er.educause.edu/articles/2011/9/penetrating-the-fog-analytics-in-learning-and-education

Creating an Institution-Wide Data Eco-system

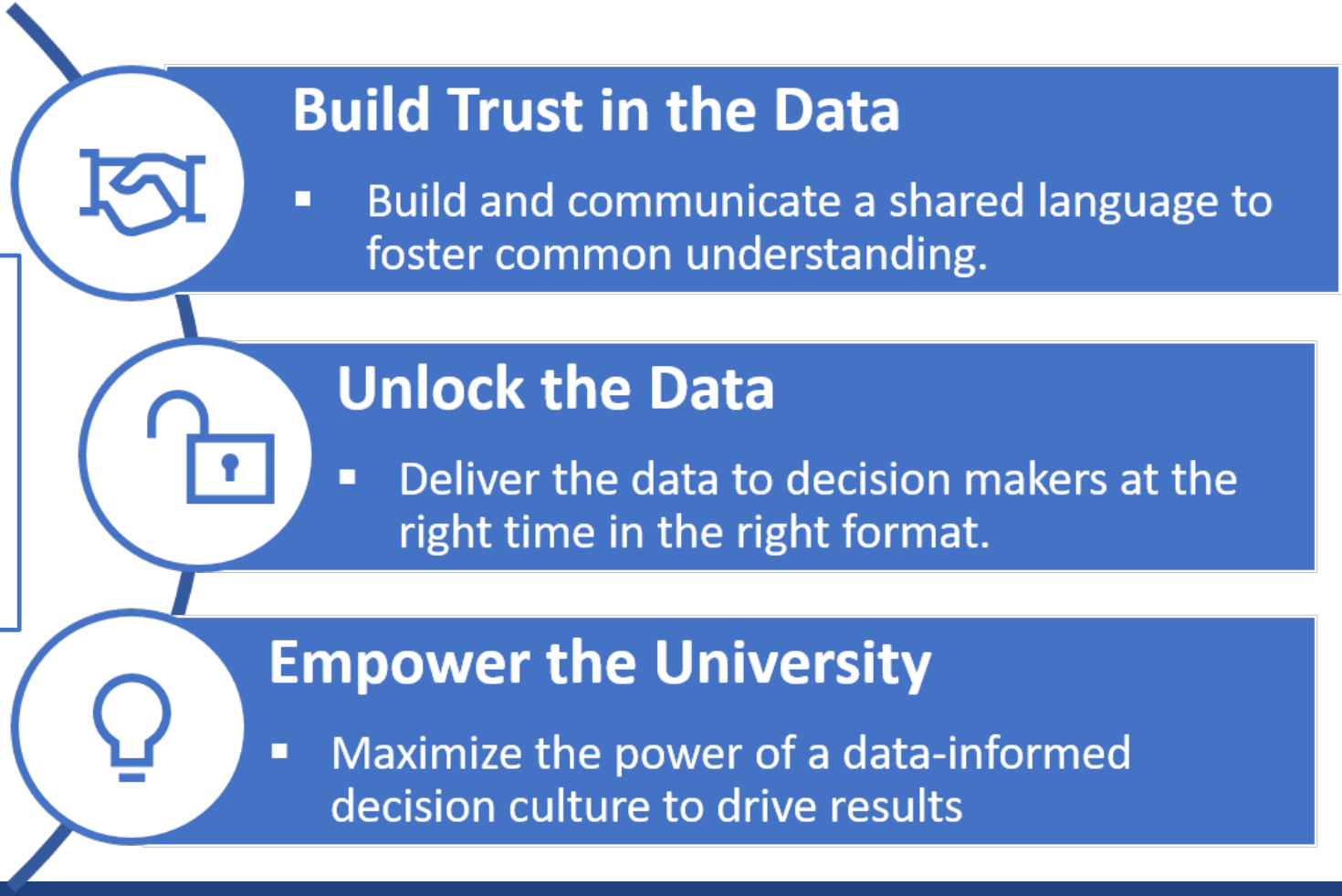
Lance C. Kennedy-Phillips, Ph.D.
Vice Provost for Planning and Assessment
Pennsylvania State University

Penn State's Data and Analytics Vision Statement

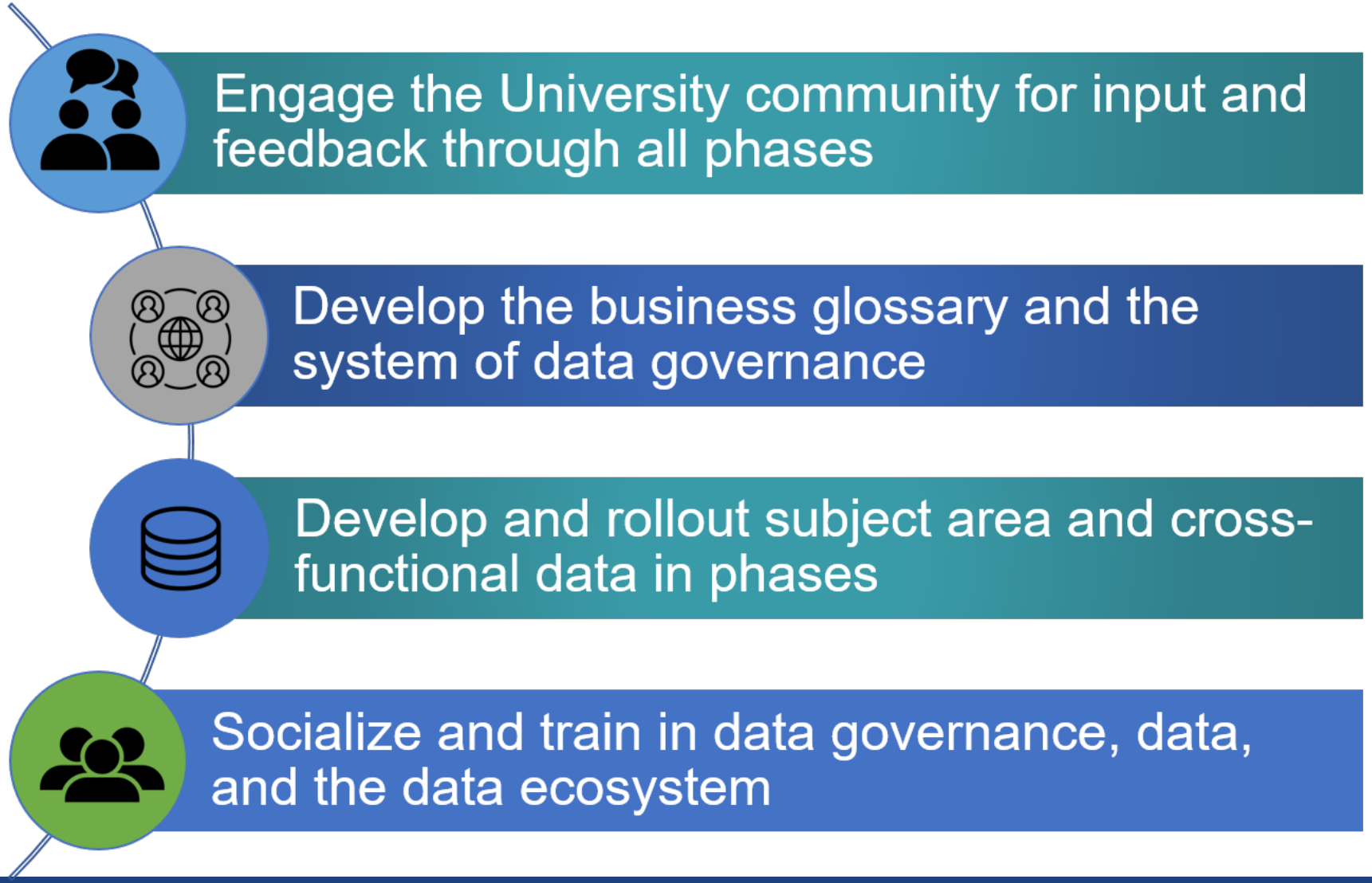
Vision Statement:

Trusted Insights

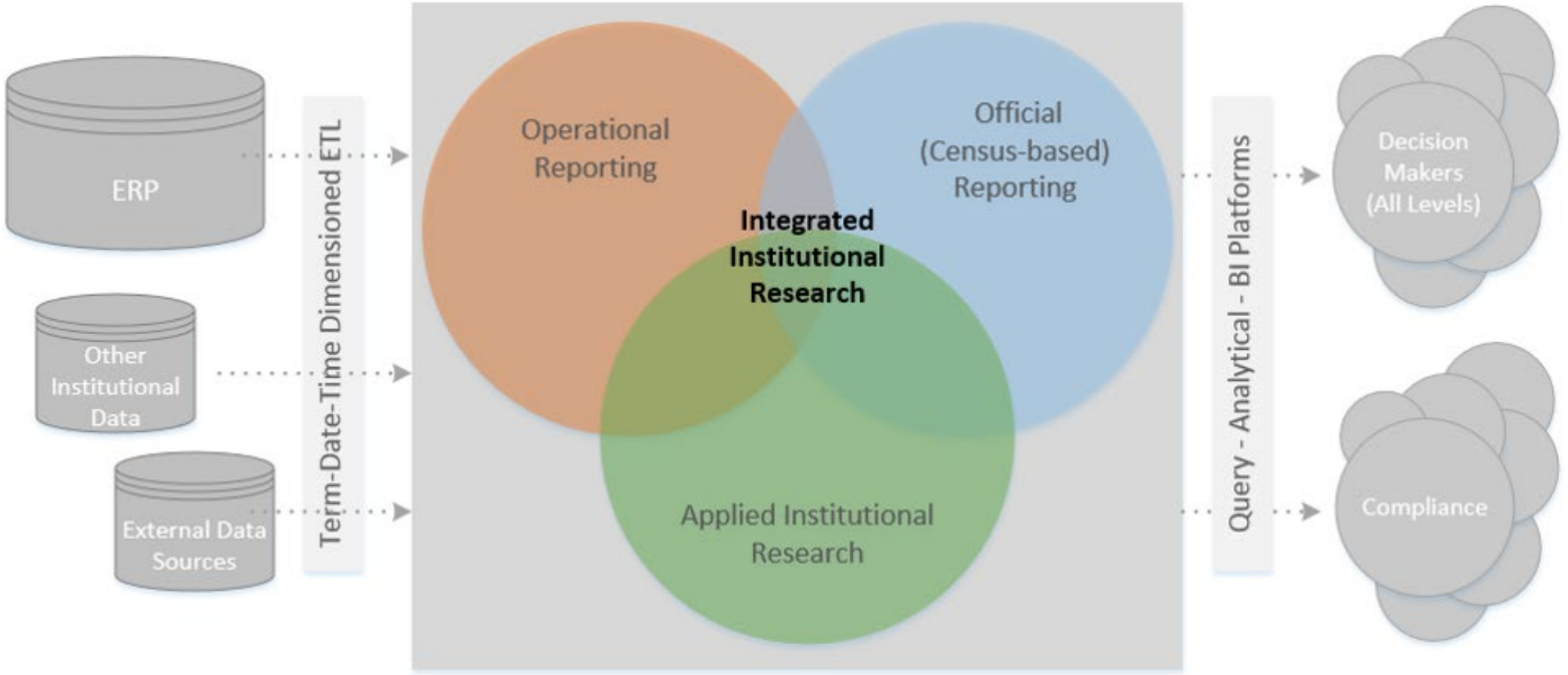
Empowering Penn State



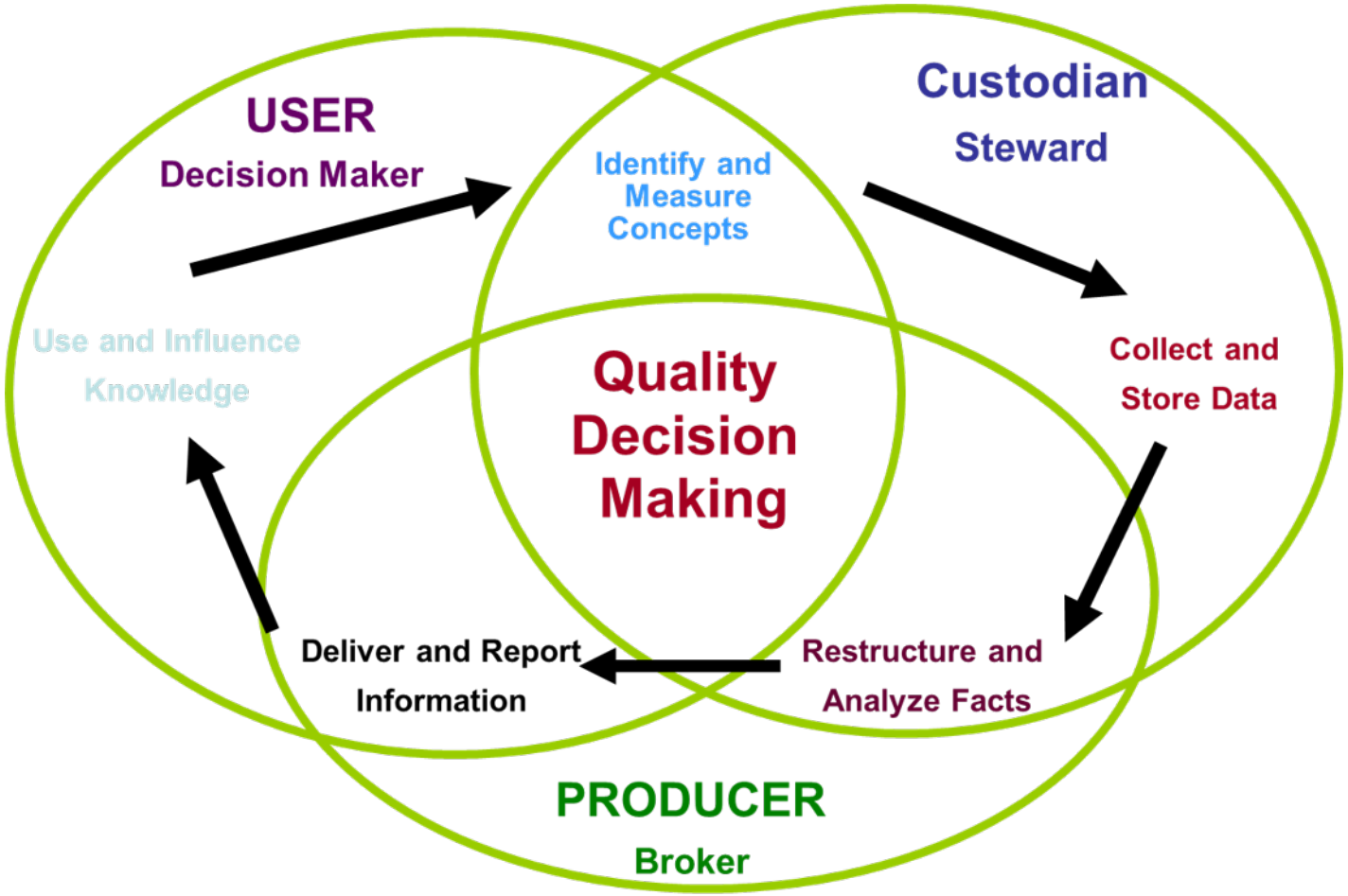
Development of an analytics & BI ecosystem



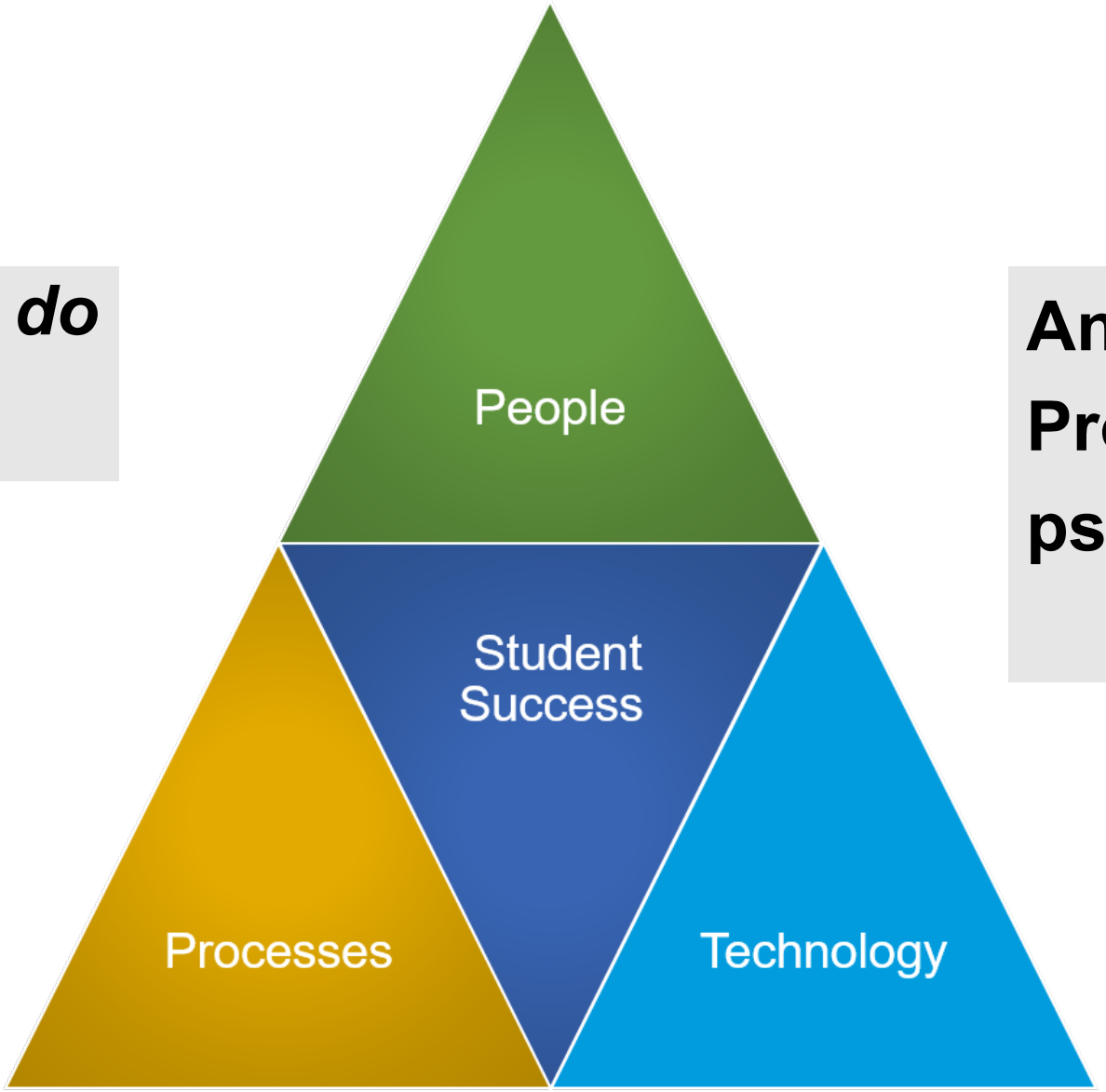
Creating a Data Infrastructure



Tying it all together…



How do we do this?



Analytics and BI Process at Penn State: psudata.psu.edu

Library Integration in Institutional Learning Analytics

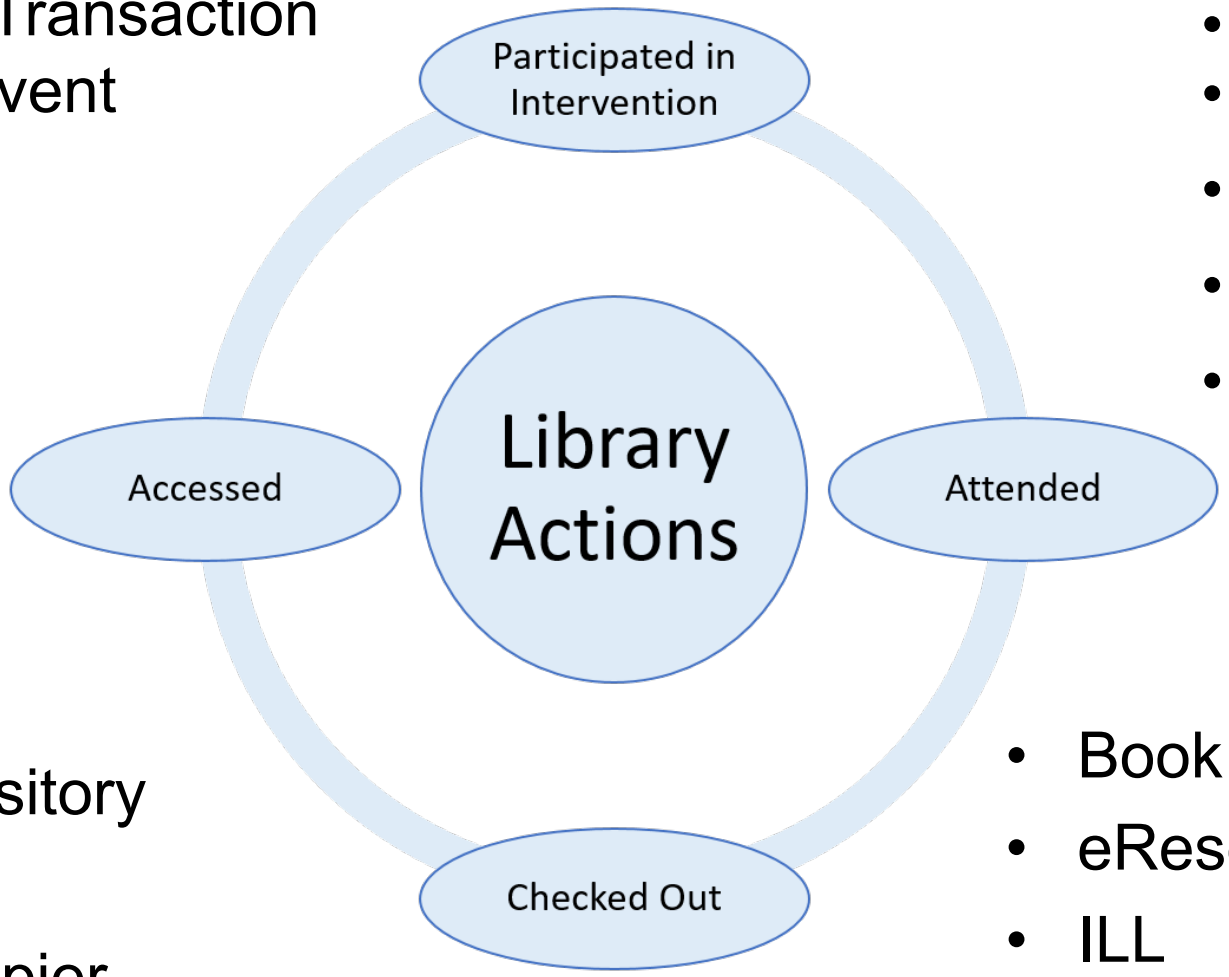
Connecting Libraries and Learning Analytics for Student Success

INSTITUTE of Museum and Library SERVICES

These projects were made possible in part by the Institute of Museum and Library Services [LG-98-17-0019-17; LG-97-18-0209-18]. The views, findings, conclusions or recommendations expressed in this presentation do not necessarily represent those of the Institute of Museum and Library Services.

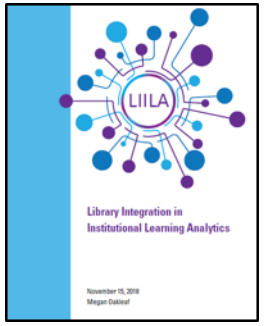
- Instruction Session
- Reference Transaction
- Exhibit or event

- Library Facility
- Learning Commons
- Study Room
- Presentation Room
- MakerSpace
- Lab



- Article
- eBook
- Institutional Repository
- Library Computer
- Library Printer/Copier

- Book
- eReserve
- ILL
- Technology



Oakleaf, Megan, Whyte, Anthony, Lynema, Emily and Malcolm Brown. “Academic Libraries & Institutional Learning Analytics: One Path to Integration.” *Journal of Academic Librarianship*. 43(5). 454–461. 2017.

Possible Librarian Roles in Learning Analytics

Communication

- **Engage in discussions** about learning analytics across the institution
- Convene institutional or cross-institutional discussions about learning analytics

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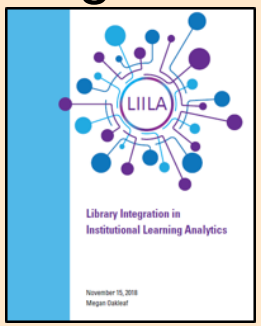

Policy & Procedure Activism

- **Shape policies** governing the deployment and use of learning analytics
- **Establish procedures** for learning analytics
- **Advocate for data security and privacy**

Participation

- **Participate in institutional learning analytics by contributing library data**
- **Determine the library data to contribute (or withhold) from learning analytics systems**
- Experiment and innovate in learning analytics

Meaning Creation

- Consult on meaningful data ingested into learning analytics systems
- **Provide expertise in data science, curation, stewardship, metadata, taxonomies, classification, and visualization**
- Demonstrate and articulate the value of information revealed by learning analytics

Action

- Collaborate to act upon findings revealed by learning analytics
- **Intervene with students seeking assistance through or identified by learning analytics efforts**

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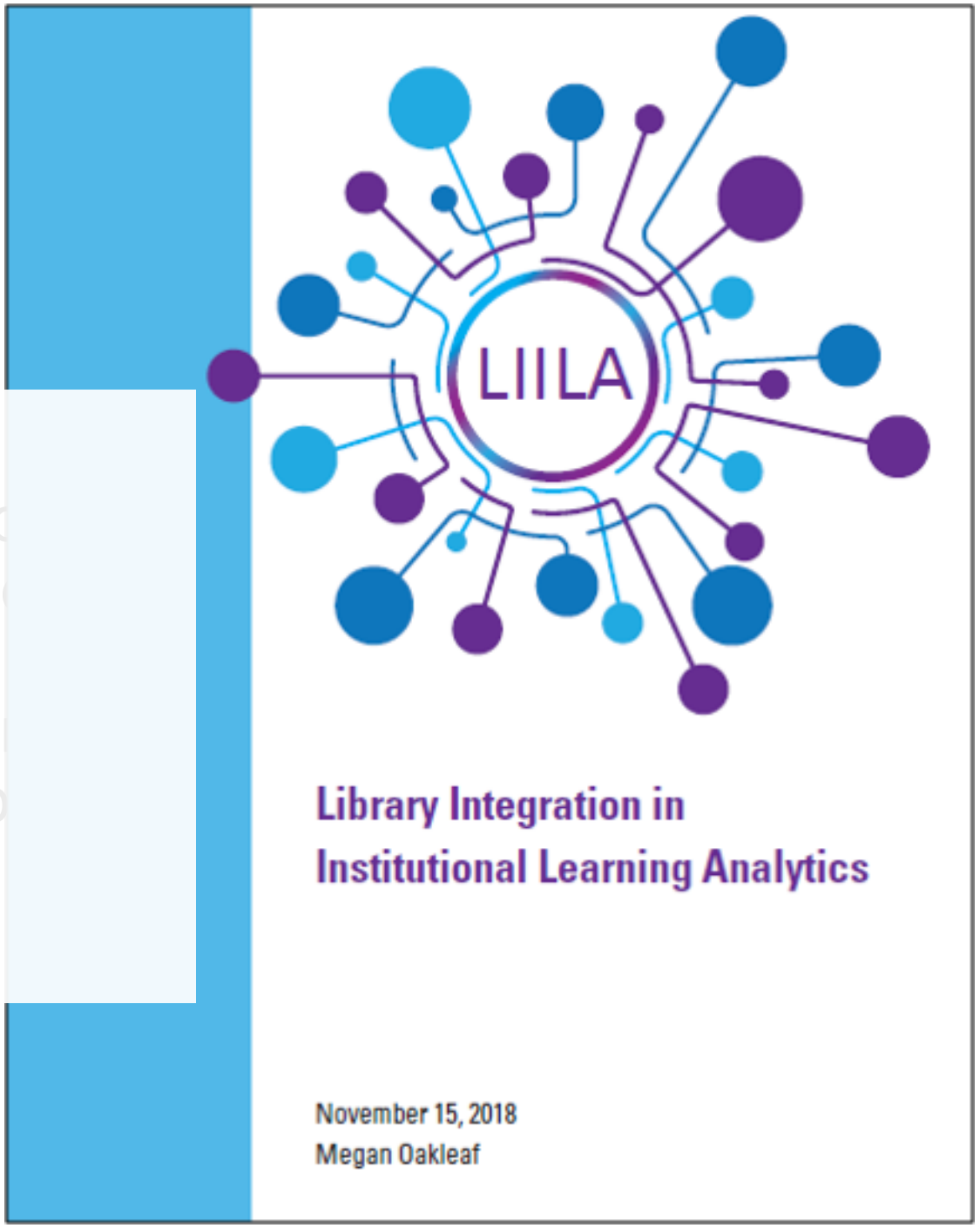
When Roles Collide:

Librarians as Educators and the Question of Learning Analytics

*Megan Oakleaf, Malcolm Brown, Dean Hendrix, Joe Lucia, Scott Walter**

Introduction

Learning analytics, the "collection and analysis of usage data associated with student learning…to observe and understand learning behaviors in order to enable appropriate interventions,"[1] is no longer a new idea in higher education. Rather, learning analytics is an established area of cross-institutional cooperation on many campuses. As learning analytics evolves from a novel approach to an accepted strategy for investigating and supporting student success, librarians have an opportunity to consider ways in which they might collaborate with institutional partners who are already engaged in learning analytics and contribute their unique outlook and expertise to this endeavor.



Increase Professional Awareness and Discussion

- Seek out readings, conferences, and other opportunities to learn about learning analytics.
- Connect with other librarians to discuss the role of the library in learning analytics.
- Invite stakeholders including students and faculty to engage in conversations about library involvment in learning analytics.

Be Informed and Forthright about Current Data Practices

- Investigate library systems to determine how data is gathered, maintained, secured, stored, and used.
- Investigate partner systems connected to the library (i.e. institutional, vendor) to determine how data is gathered, maintained, secured, stored, and used.
- Determine whether opt-in and opt-out choices are available and how data generated in each category is utilized.
- Be transparent about data gathering, maintenance, security, storage, and use and communicate rationales for data use.

Communicate and Negotiate with Vendor and Institutional Partners

- Determine who owns or has access rights to data maintained in vendor and institutional systems.
- Work with local procurement officer(s) to ensure that data ownership and access rights are part of contract negotiations.

Situate Learning Analytics among Other Assessment Approaches

- Recognize that learning analytics is one tool for assessing student learning and success and identifying ways to support students in achieving their goals.
- Acknowledge the strengths and weaknesses of all assessment approaches and pursue the approach that best fits the problems to solve, questions to answer, and students to support.

Engage the Learning Analytics Conversation at the Institutional Level

- Connect with learning analytics personnel, committees, and systems at the institutional level.
- Contribute librarian knowledge, skills, abilities, and values to institutional learning analytics efforts.

Identify and Analyze Questions or Problems Meriting a Learning Analytics Approach

- Identify the issues, interests, areas of concern, and other priorities appropriate for investigating via learning analytics.
- Identify and prioritize stakeholder groups that can most benefit from learning analytics inquiry.

Envision Library Data Contributions

- Identify library services, areas of expertise, resources, or facilities are most likely to contribute to student learning and success.
- Inventory the data emitted from the library services, areas of expertise, resources, or facilities most likely to contribute to student learning and success.
- Imagine data that may be instrumented and collected from impactful library services, areas of expertise, resources, or facilities.

Explore Interoperability Standards

- Consider ways to link data "silos" using interoperability standards.

Identify Key User Stories

- Prioritize library and learning analytics user stories likely to result in contributions to student learning and success.
- Develop prioritized user stories into detailed use cases.

Pursue Pilot Studies

- Develop pilot studies to investigate the feasibility and usability of highly ranked user stories and use cases.

Figure 10. Possible Next Steps for Library Integration into Institutional Learning Analytics