

# Artificial Intelligence: What Now and What Next in US Education?

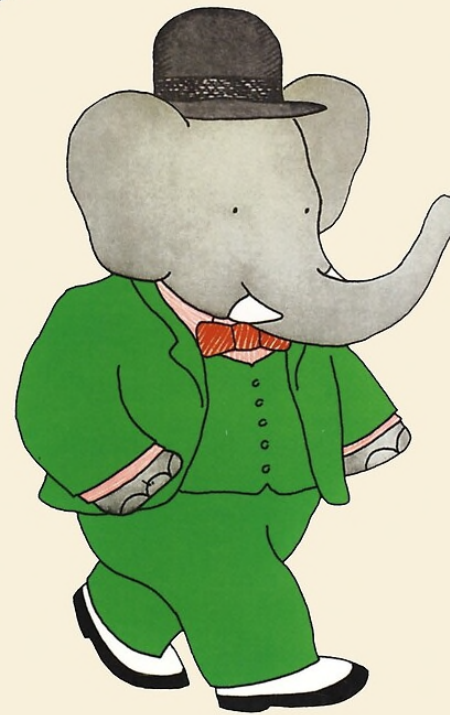
PESC Data Summit: Best Practices in Data Systems & Lifelong  
Learning, May 2023

# Introduction

Who Are We?

# Introduction

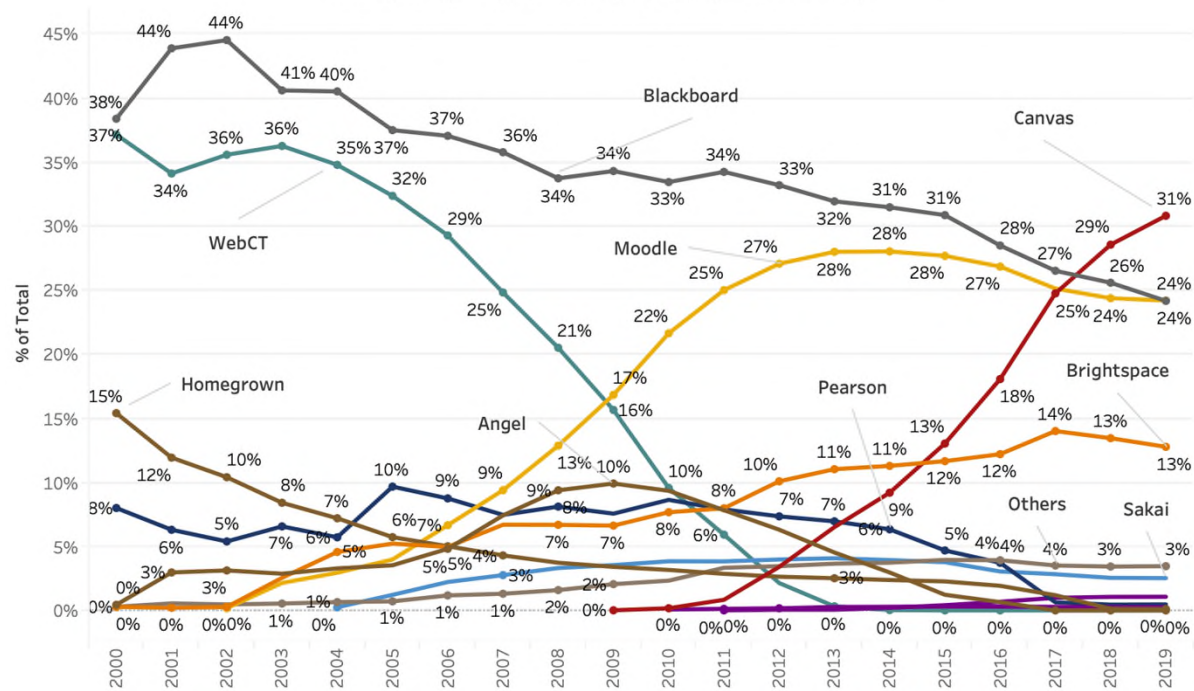
**BABAR**



# Introduction

- ~ 45k Institutions
- ~3400 Products
- ~1900 Vendors
- ~110 Product Categories

**Historical LMS Data for North American Higher Education**  
All degree types (Less than 2yrs, 2yr, 4yr and CEGEP)



# What Now?

Current State of AI

# Perception

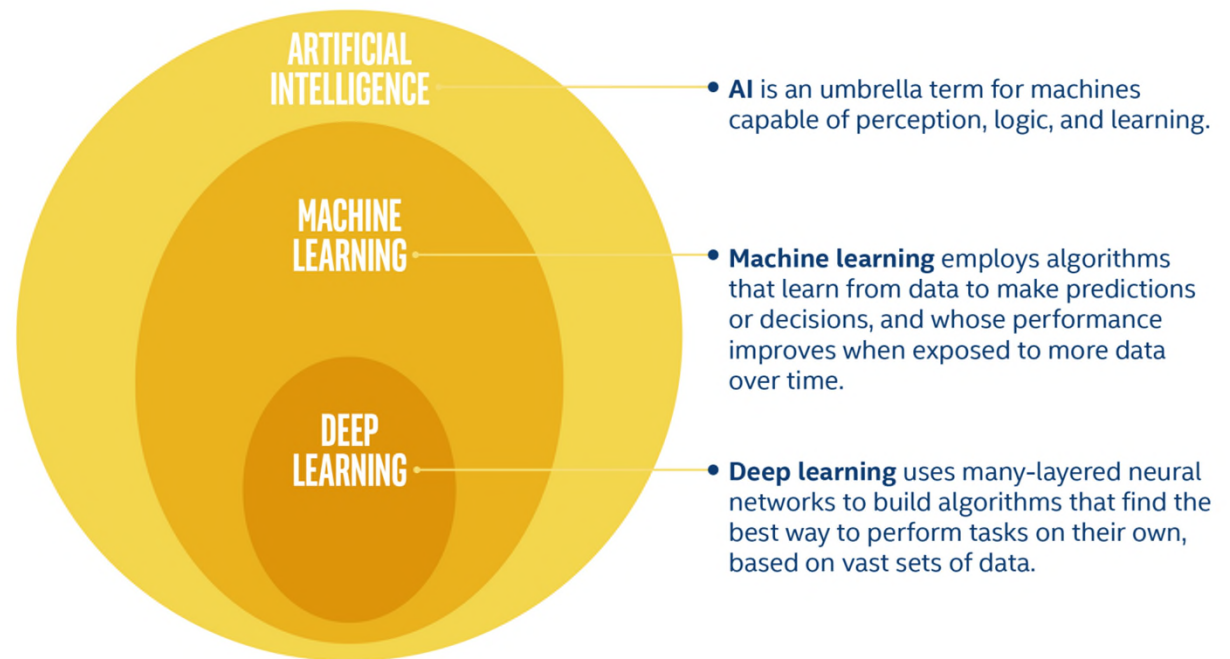


# Perception: Longer View



# Definition

## — ARTIFICIAL INTELLIGENCE TERMS —



Source: <https://www.emsnow.com/there-are-many-ways-to-define-artificial-intelligence-says-intel/>



# Current Landscape: Main Use Cases

## Admissions

- Discovering prospective students and assisting them through different stages of the funnel.

## Teaching and Learning

- Helping some institutions personalize student experience, grade assessments and support navigating administrative tasks or understanding assignments.

## Advising

- Helping students they need to stay on track and understanding campus features, such as campus activities, library hours, etc.

## Retention

- Helping discover detection indicators (i.e., age, gender, high school exam scores, region, GPA) via machine learning.

## Assessment Integrity

- Protecting against plagiarism

# Current Landscape: Solution Categories

## Artificial Intelligence

Chatbots

## Deep Learning

BI Systems

Data Management

Proctoring

Transfer Requirement

## Machine Learning

Adaptive Learning

Admission Systems

Advising and Degree Auditing

Assessment and Evaluation

Career Readiness

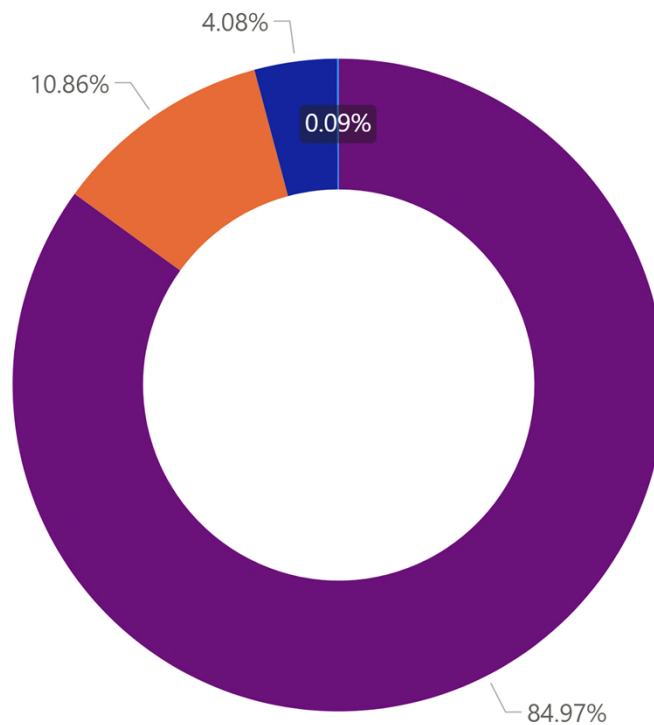
Digital Courseware

Learning Analytics

Retention Management

Tutoring Solutions

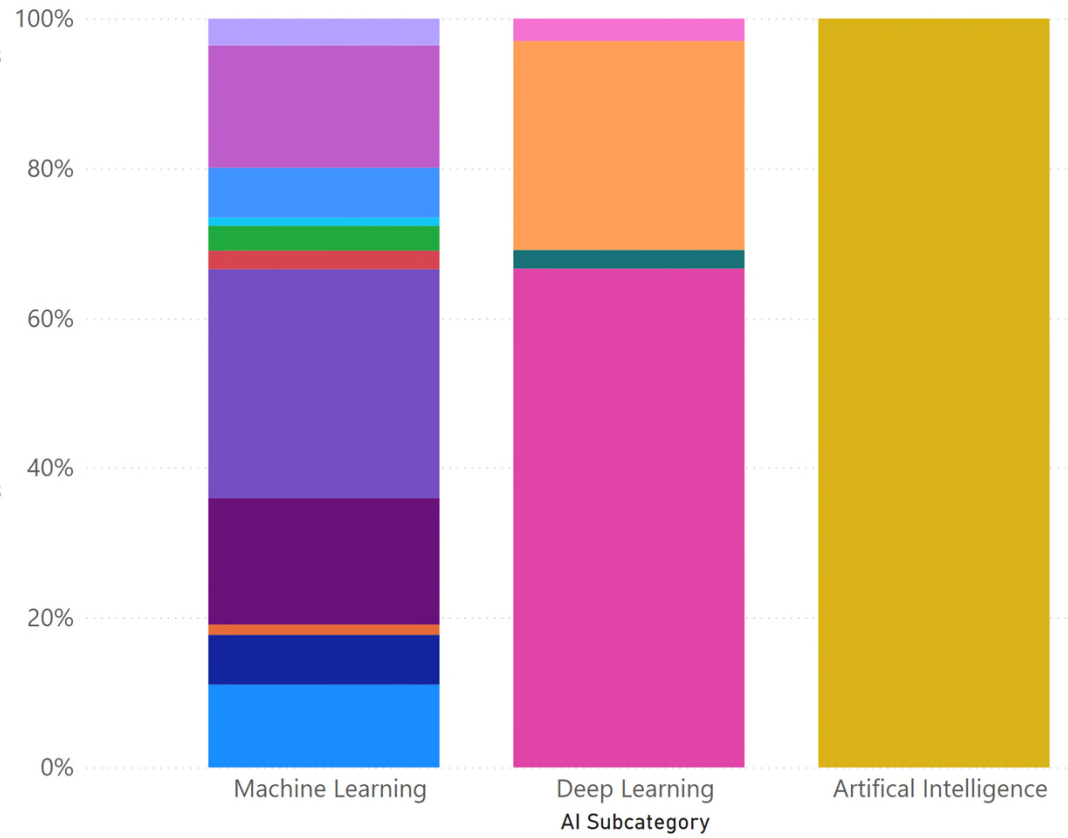
# Current Landscape: Overall



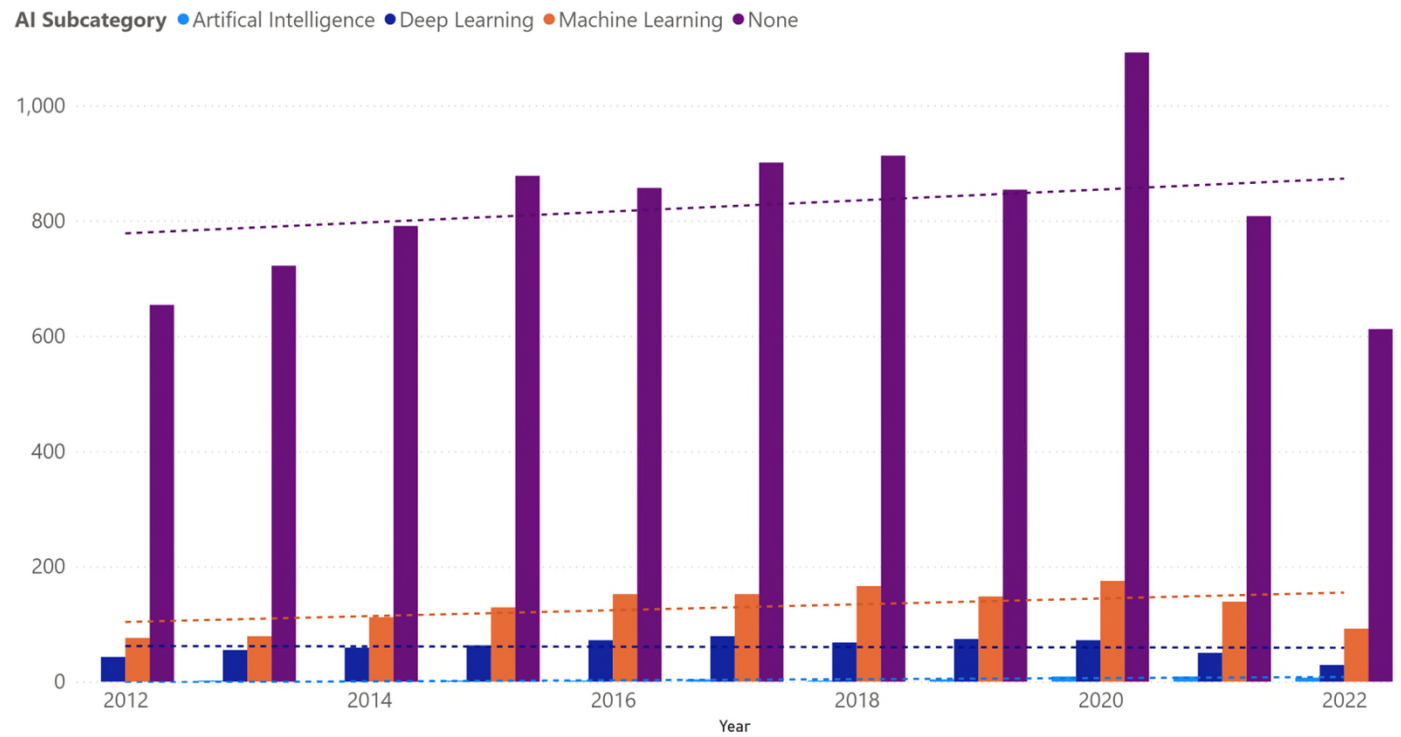
- AI Subcategory**
- None
  - Machine Learning
  - Deep Learning
  - Artificial Intelligence

# Current Landscape: By Solution Category

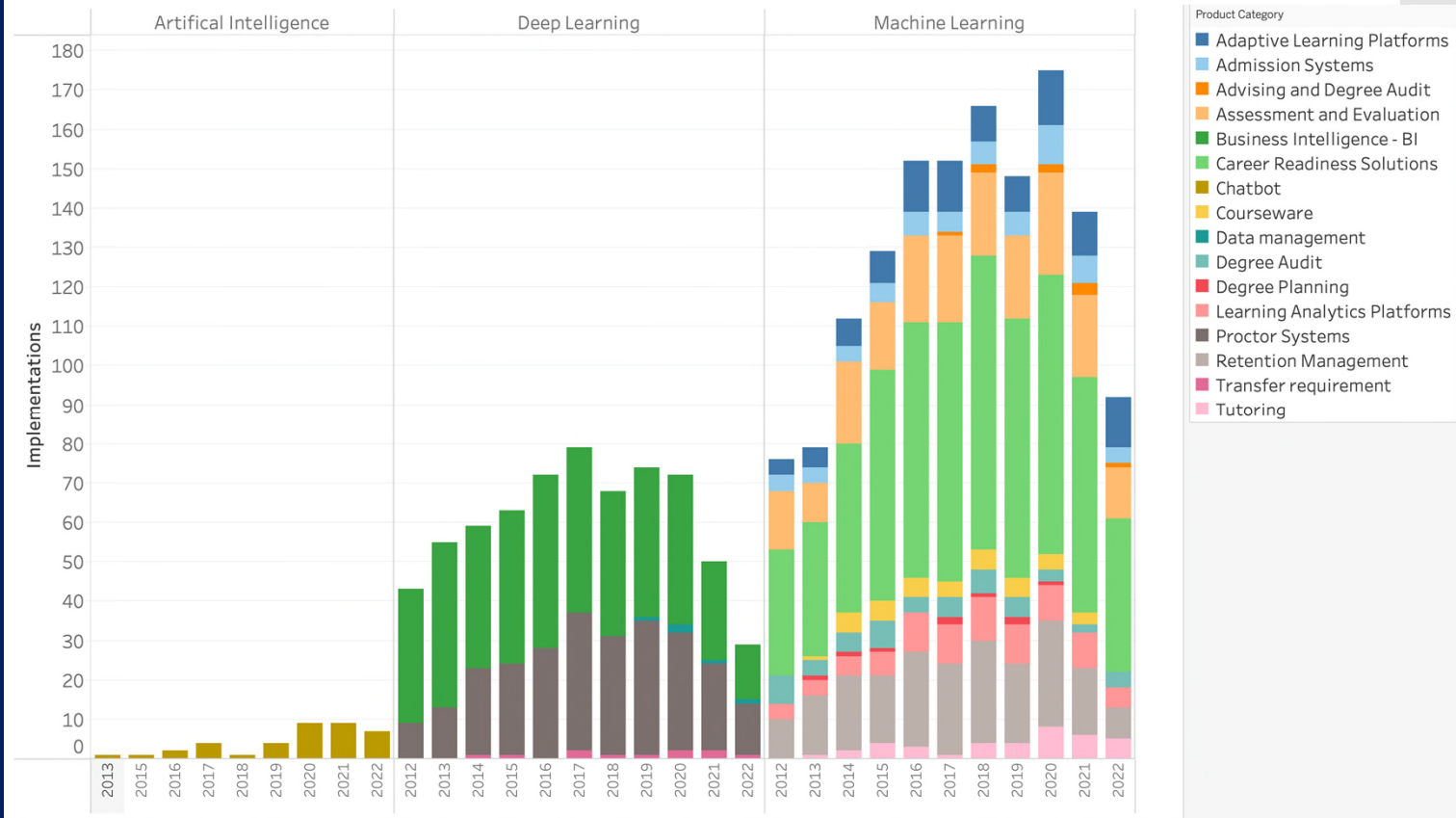
- Product Category**
- Adaptive Learning Platforms
  - Admission Systems
  - Advising and Degree Audit
  - Assessment and Evaluation
  - Business Intelligence - BI
  - Career Readiness Solutions
  - Chatbot
  - Courseware
  - Data management
  - Degree Audit
  - Degree Planning
  - Learning Analytics Platforms
  - Proctor Systems
  - Retention Management
  - Transfer requirement
  - Tutoring



# Historical Landscape: Overall



# Historical Landscape: By Category



# What Next?

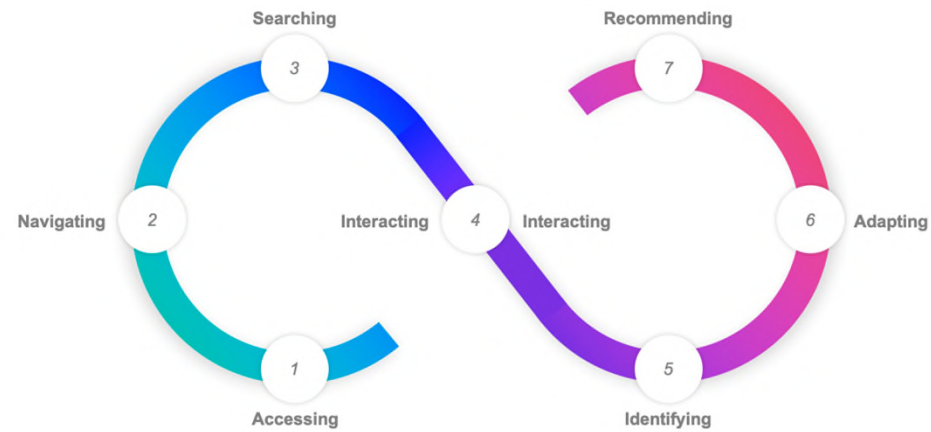
Future State of AI

# Navigating Risks



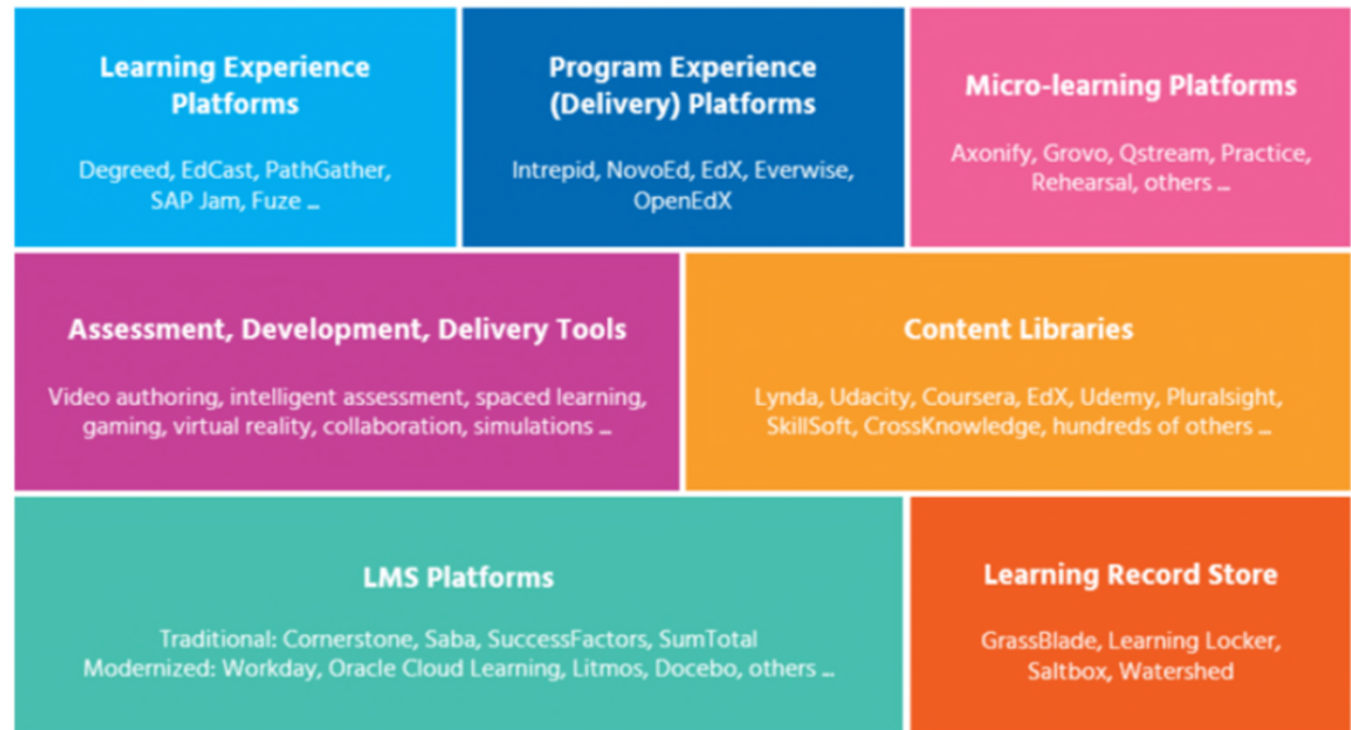


# Providing Personalization



- 1 How the user accesses the solution
- 2 How the user navigates or transverses the solution
- 3 How the user searches or finds information within the solution
- 4 How the user interacts with the solution
- 5 How the solution identifies the user and the user's needs
- 6 How the solution adapts to the user and the user's needs
- 7 How the solution recommends or suggests information to the user


# Providing Personalization

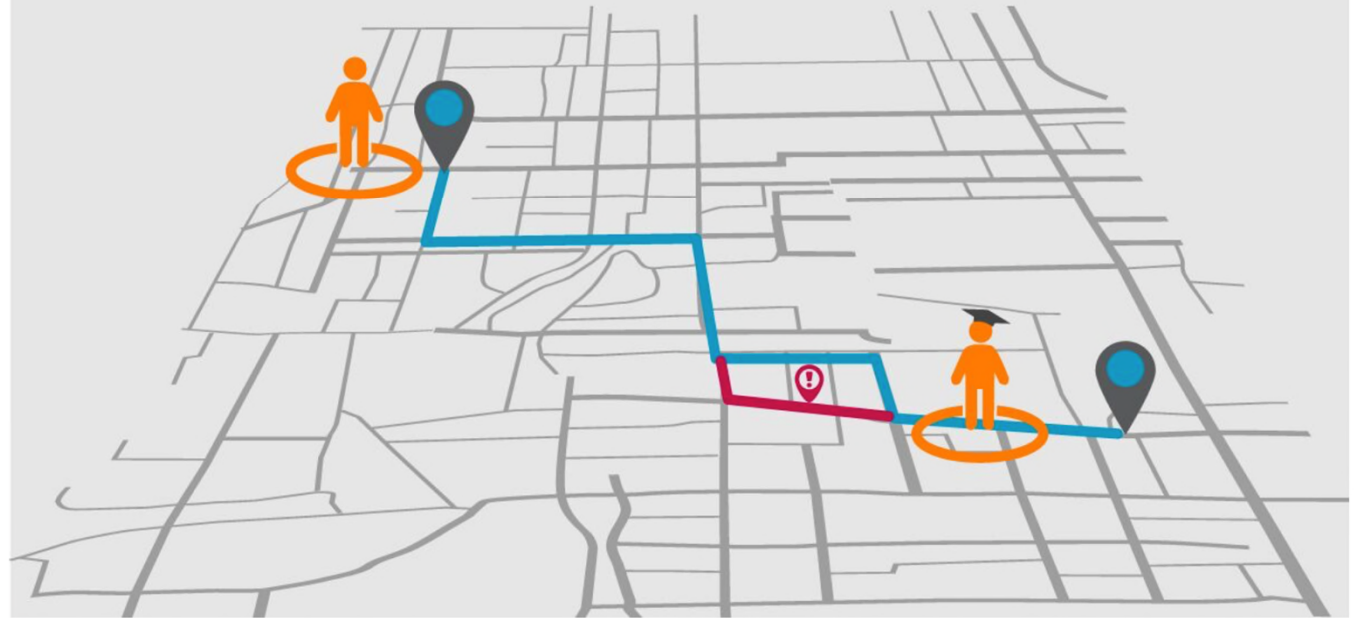


Source: <https://joshbersin.com/2019/06/learning-technology-evolves-integrated-platforms-are-arriving/>

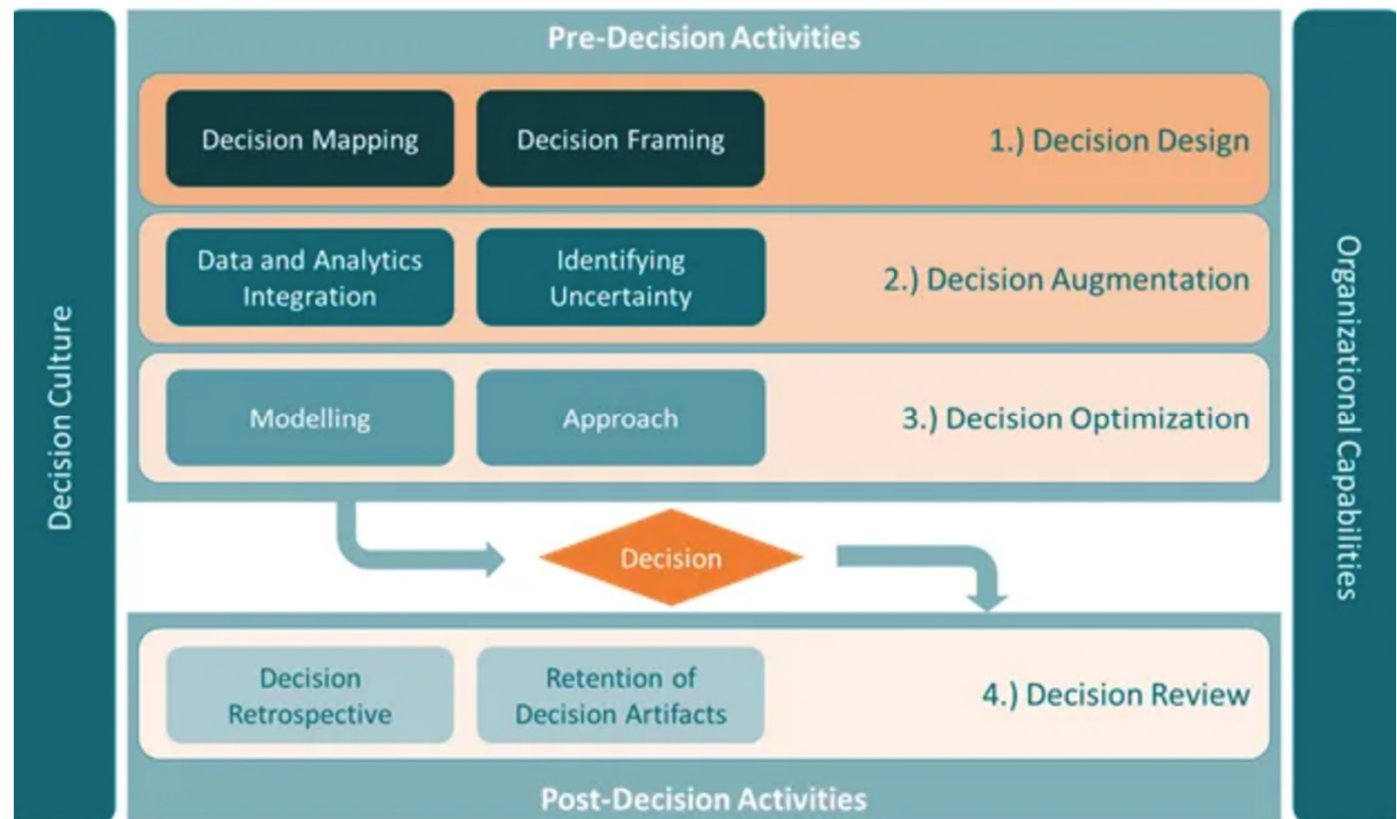
# Providing Decision Support

encoura  
Eduventures' Research

 0.5 Miles  
Graduation

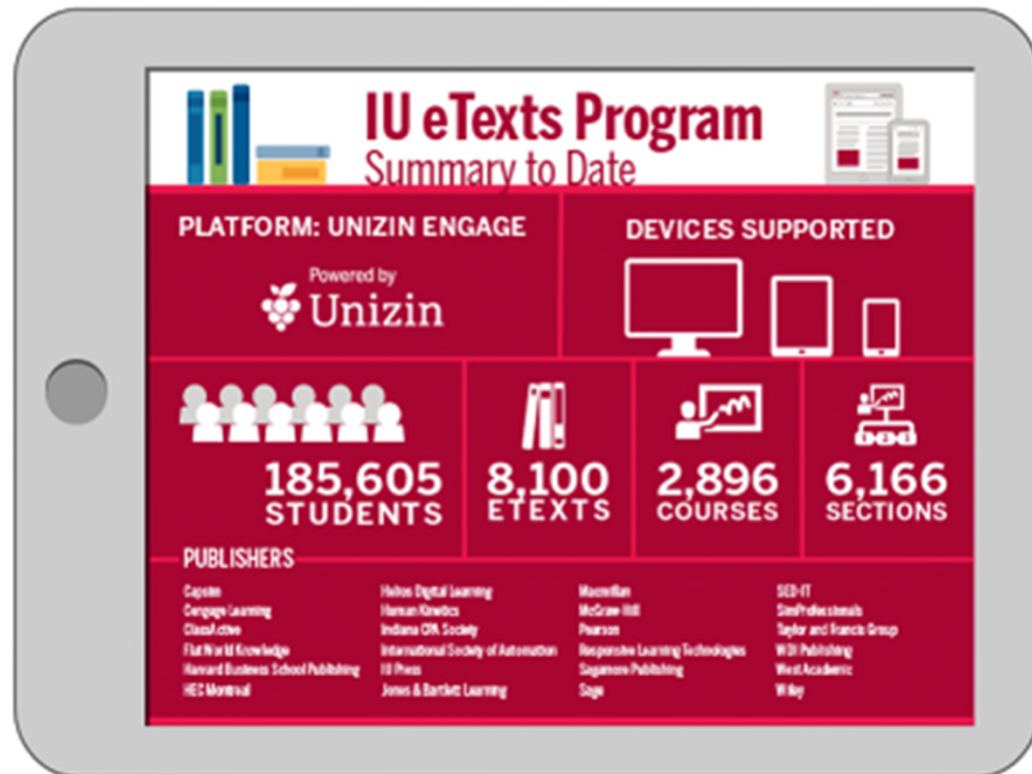


# Providing Decision Support



Source: Erik Balodis, "A Framework for Embedding Decision Intelligence into your Organization", May 2022 [Online]. Available: [shorturl.at/xPUX1](https://shorturl.at/xPUX1)

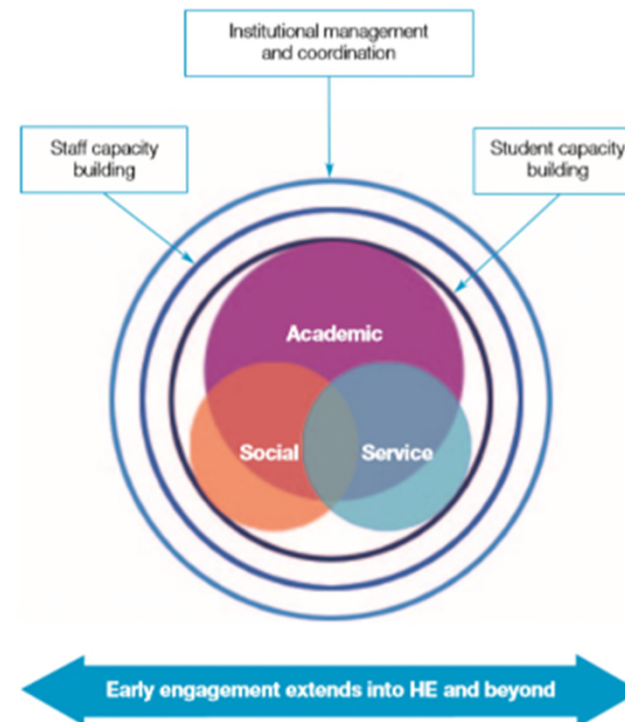
# Improving Engagement



Source: Educause, Student Engagement with E-Texts: What the Data Tell Us

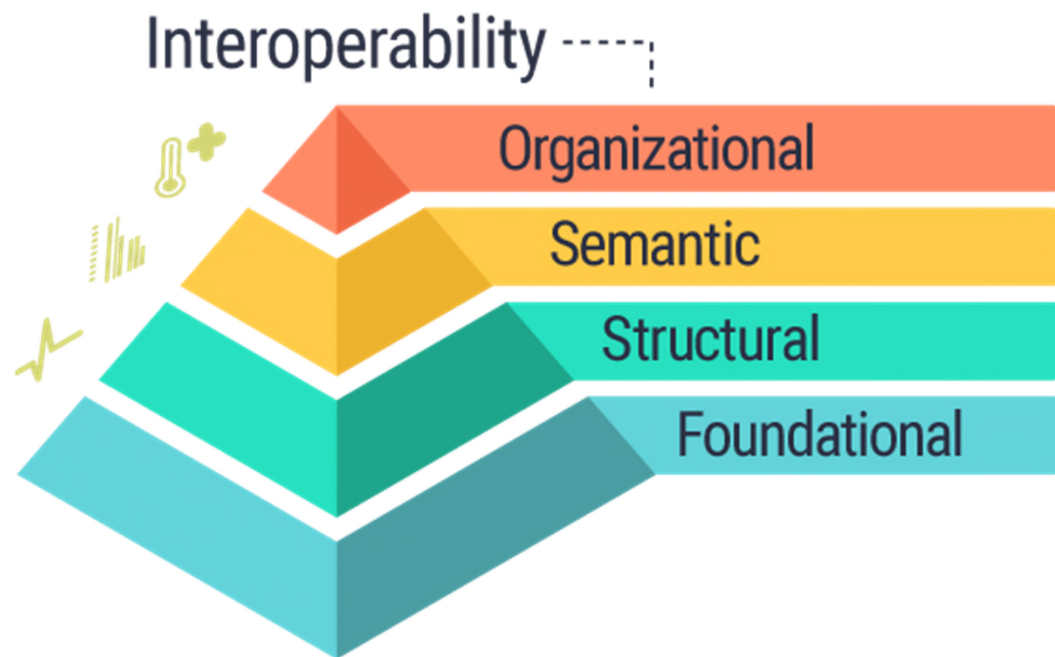
# Improving Engagement

Figure 1: What Works? model of student retention and success



Source: Thomas, L. (July 2012) Building student engagement and belonging in higher education at a time of change: final report from the What works? Student retention & success programme. London: Paul Hamlyn Foundation

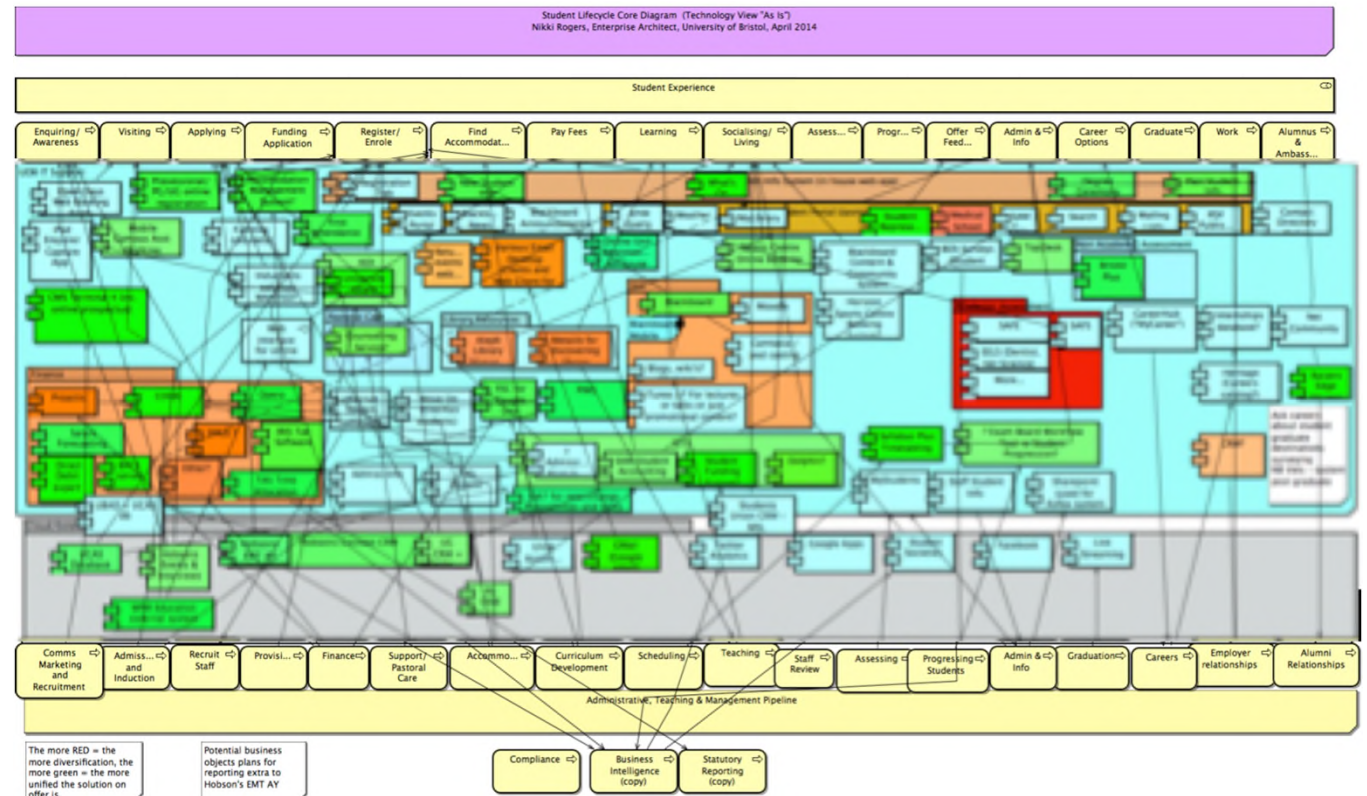
# Requiring Interoperability



Source: Healthcare Information and Management Systems Society (HIMSS)



# Requiring Interoperability



Source: <https://enterprisearchitect.blogs.bristol.ac.uk/2014/05/19/enterprise-architecture-approach-in-an-he-institution-10-practical-steps/>



# Key Takeaways

The Promise of AI

## Key Takeaways

- AI has been in use in education for over ten years
- Current use cases are in admissions, teaching and learning, advising, retention and assessment integrity
- The future of AI will be in providing personalization, decision support, and engagement
- All the future trends of AI will be determined by interoperability

Thank You!

- James Wiley
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