

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

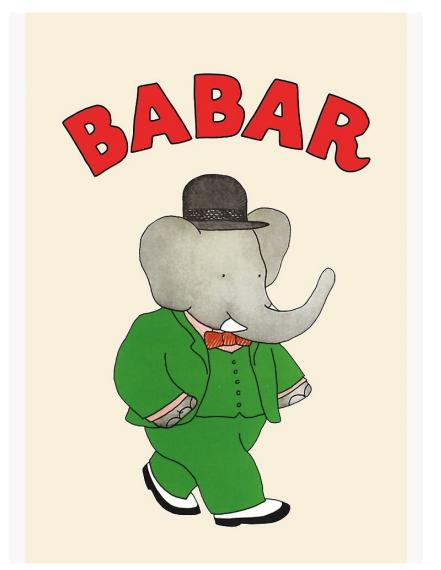
PESC Data Summit: Best Practices in Data Systems & Lifelong Learning, May 2023



Introduction

Who Are We?







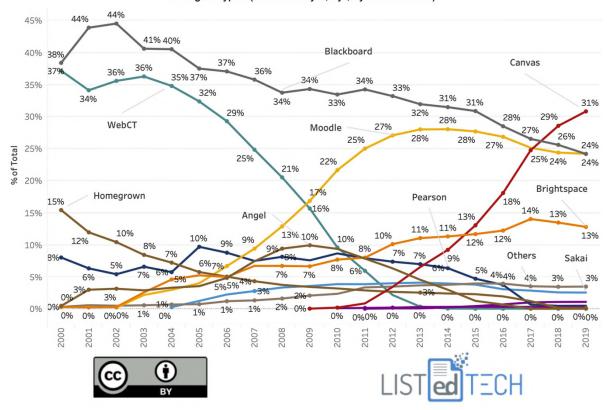
Introduction

- ~ 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)







Current State of Al



Perception





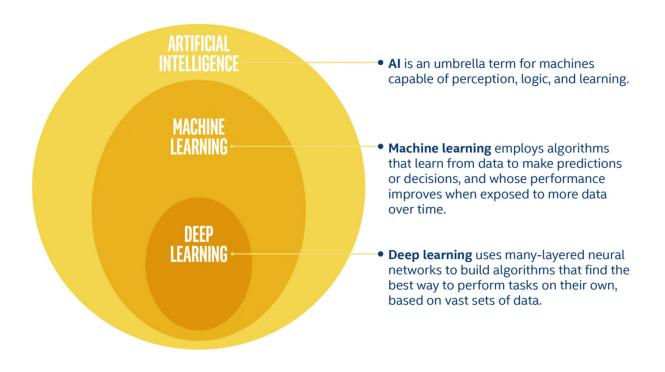
Perception: Longer View

Management New Normal Operations Figure Adapting Learning Readiness Adaptability Adaptability Research Strategic Changes Increase Challenges Adapt Course Planning Faculty Functional Competencies Climate Support Data Experiencing Staffing Skills New Training Opportunities Flexible Disruptions Collaboration Development Transformation



Definition

-ARTIFICIAL INTELLIGENCE TERMS-



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



Current Landscape: Main Use Cases



• 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.

Retentio

• 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

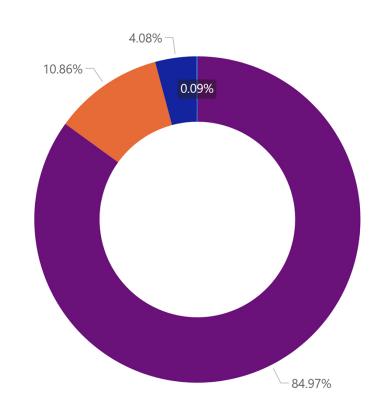








Current Landscape: Overall

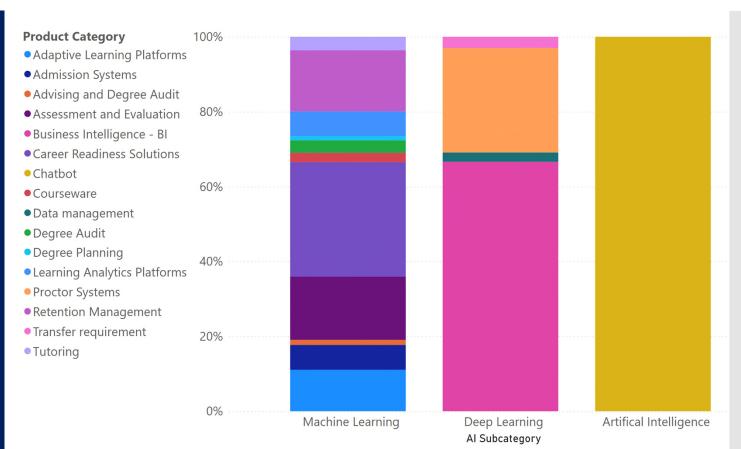


AI Subcategory

- None
- Machine Learning
- Deep Learning
- Artifical Intelligence

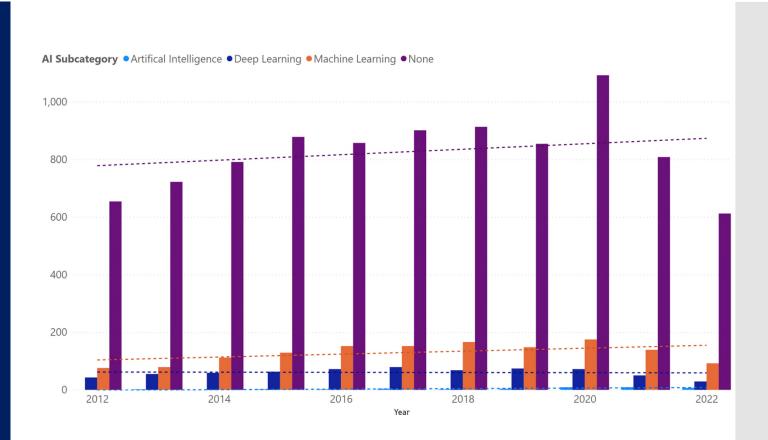


Current Landscape: By Solution Category



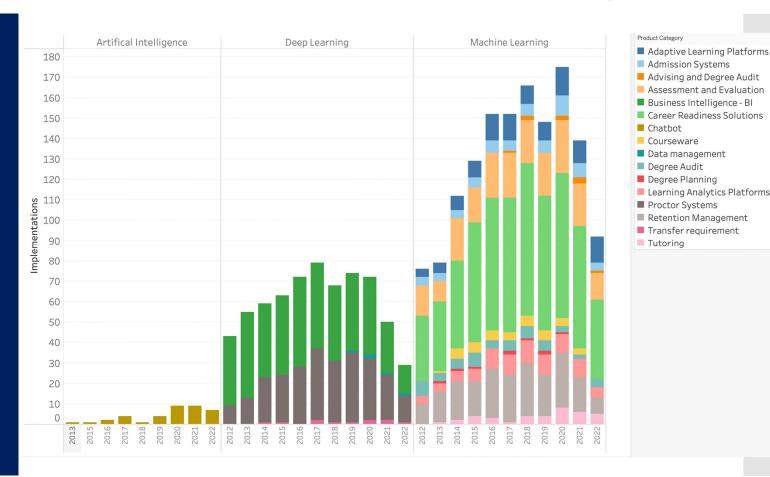








Historical Landscape: By Category





What Next?

Future State of Al



Navigating Risks

Harm to People

- Individual: Harm to a person's civil liberties, rights, physical or psychological safety, or economic opportunity.
- Group/Community: Harm to a group such as discrimination against a population sub-group.
- Societal: Harm to democratic participation or educational access.

Harm to an Organization

- Harm to an organization's business operations.
- Harm to an organization from security breaches or monetary loss.
- Harm to an organization's reputation.

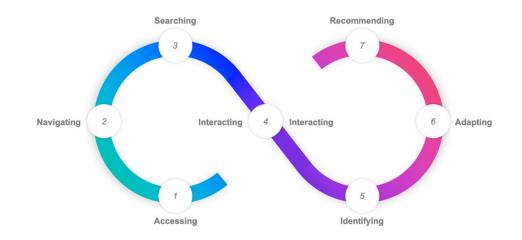
Harm to an Ecosystem

- Harm to interconnected and interdependent elements and resources.
- Harm to the global financial system, supply chain, or interrelated systems.
- Harm to natural resources, the environment, and planet.

Source: NIST, Artificial Intelligence Risk Management Framework (AI RMF 1.0), January 2023



Providing Personalization



How the user accesses the solution

How the user navigates or transverses the solution How the user searches or finds information within the solution

3

How the user interacts with the solution

How the solution identifies the user and the user's needs

How the solution adapts to the user and the user's needs How the solution recommends or suggests information to the



Providing Personalization

Learning Experience Platforms

Degreed, EdCast, PathGather, SAP Jam, Fuze _

Program Experience (Delivery) Platforms

Intrepid, NovoEd, EdX, Everwise, OpenEdX

Micro-learning Platforms

Axonify, Grovo, Qstream, Practice, Rehearsal, others ...

Assessment, Development, Delivery Tools

Video authoring, intelligent assessment, spaced learning, gaming, virtual reality, collaboration, simulations _

Content Libraries

Lynda, Udacity, Coursera, EdX, Udemy, Pluralsight SkillSoft, CrossKnowledge, hundreds of others...

LMS Platforms

Traditional: Cornerstone, Saba, SuccessFactors, SumTotal Modernized: Workday, Oracle Cloud Learning, Litmos, Docebo, others ...

Learning Record Store

GrassBlade, Learning Locker, Saltbox, Watershed

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

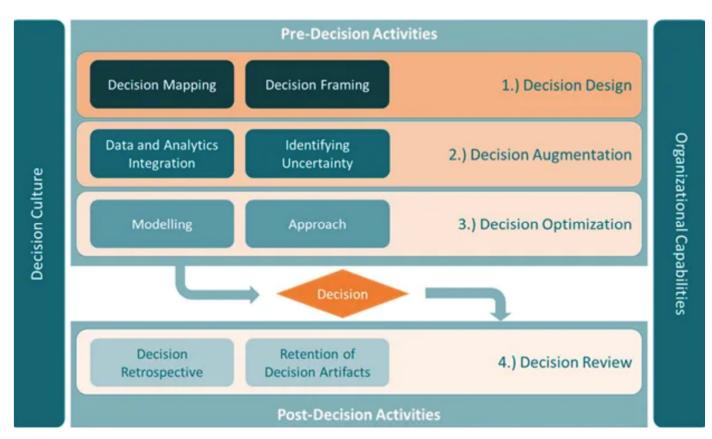


Providing Decision Support





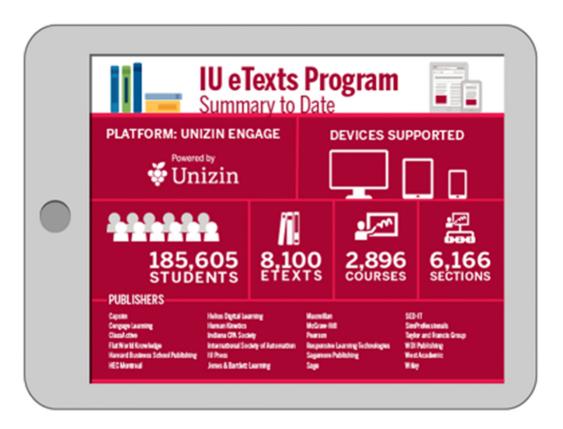
Providing Decision Support



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



Improving Engagement



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

Improving Engagement



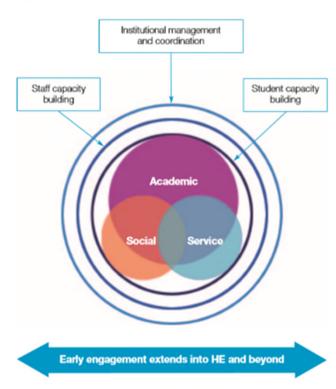
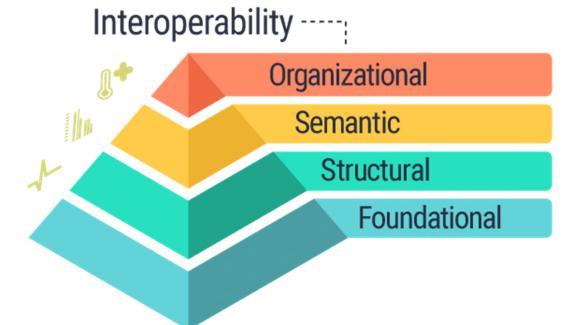


Figure 1: What Works? model of student retention and success

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



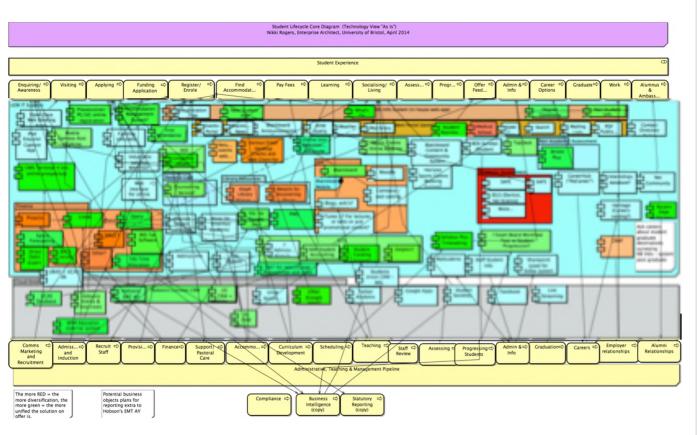
Requiring Interoperability



Source: Healthcare Information and Management Systems Society (HIMSS)



Requiring Interoperability



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



Key Takeaways

The Promise of Al



Key Takeaways

- Al 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!

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