



The next big thing  
will be a lot of small things.

# Open Software for Learning Analytics

Nancy, May 2017

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# What is Open Source?

**... software for which the  
original source code is made  
freely available and may be  
redistributed and modified ...**

<https://opensource.org/osd-annotated>

# Why Open Source?

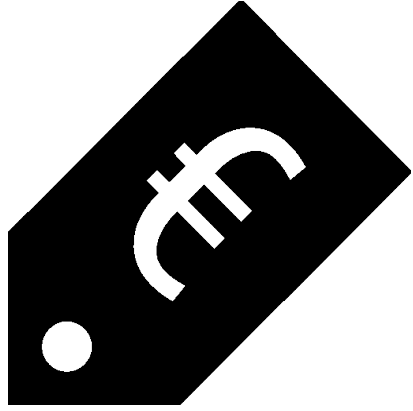
# why Open Source?



**Control**



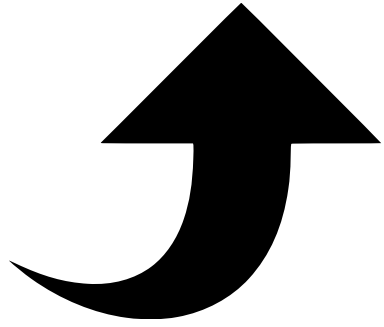
**Suitability**



**Cost**



# Unpicking 'Control'



**Upgrade Paths**



**Support Options &  
Portability = Choice**



**Innovation &  
Collaboration**

## The Mathematics of Collaboration

$$2 + 2 + 2 = 5$$

Less than 6, but **more than 2** ...

# what is Apereo?

**The Apereo Foundation**

Reduce the **overhead of collaboration**

Manage collective **intellectual property**

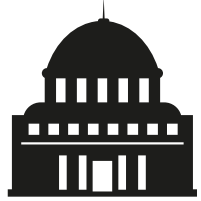
Provide shared services that reduce friction



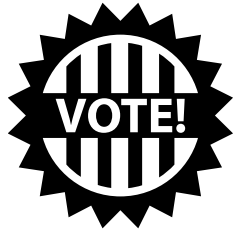
# what is Apero?



**Membership Organization**



**Legal: New Jersey 501.c.3**



**Elected Board of Directors**



**Global Membership**

**+ Partnership ESUP-Portail in France**

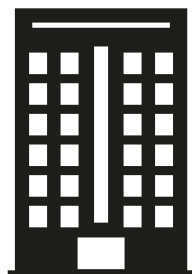
**... to assist and facilitate educational organizations which “collaborate to foster, develop, and sustain open technologies and innovation to support learning, teaching, and research.”**

- The Apereo Foundation is a non-profit [501(c)(3)] registered in New Jersey



## Educational Institutions

**Apereo = 80 + ESUP = 72**



## Commercial Affiliates

**Apereo = 13**



**Apereo Foundation**

**Shared Services**



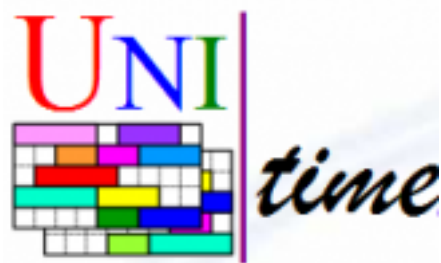
**Software Communities**

**AKA "Projects"**



次tsugi

## Open Analytics Platform



## **Practitioner Perspective**

Early Work funded by Gates Foundation

Marist College, North Carolina State  
Sinclair Community College

Jisc

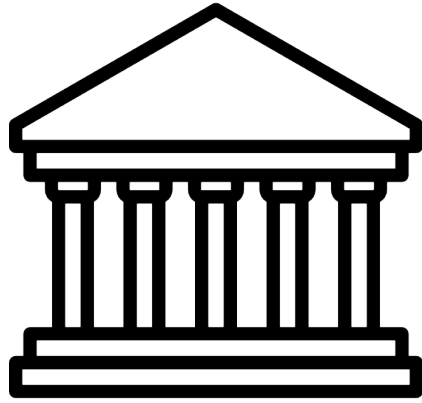
Université de Lorraine

Applying techniques associated with **big data** to learning.

Analysing historical aggregate data to identify potential failure/success.

**“Measurement, collection, analysis and reporting of data** about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs” (1)

(1) Learning and Academic Analytics, Siemens, G., 5 August 2011, <http://www.learninganalytics.net/?p=131>



## **Academic Analytics**

System or organisation wide data

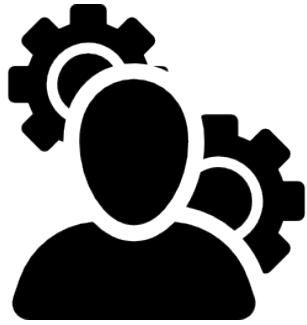


## **Learner/ing Analytics**

Actionable data about individuals

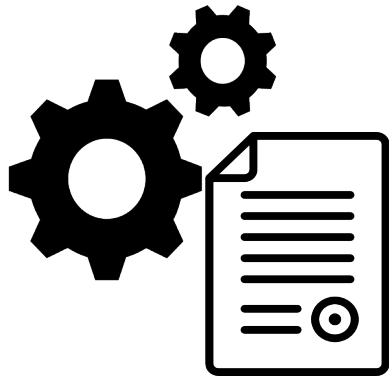


# Learning Analytics **Purpose**



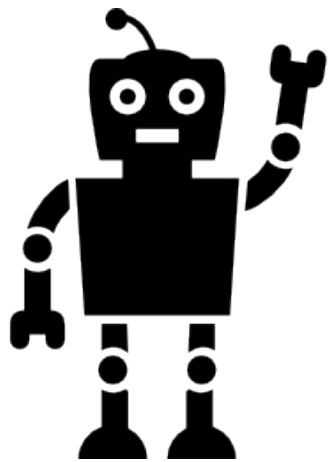
## **Present**

Prediction for intervention  
*retention*



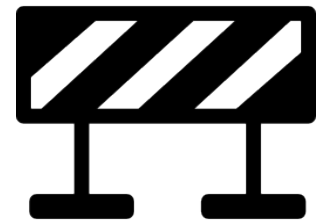
## **Coming Soon**

Evidence of Learning Outcomes  
*next gen transcripts*



## **Future**

Prediction for learning pathways  
*adaptive content*



# Institutional Lessons

## **“Big 6” lessons From Early Adopters**

- 1 Define purpose
- 2 Moral and ethical dimensions
- 3 Legality and Consent
- 4 Governance
- 5 Capacity and expertise
- 6 Your technical approach is strategic



# Technical Approach

**Platform, not Application**

**Bundling capability** with application?

Student Information System

Learning Management System

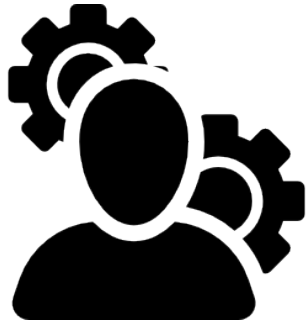
Limitations?

**Other sources of data?**

Libraries?

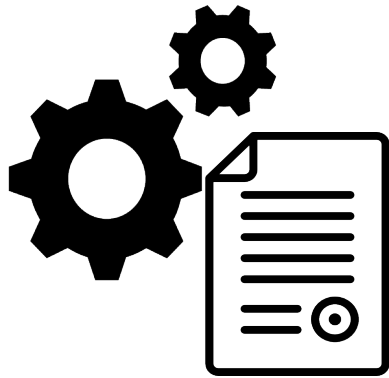
Student personal data?

# Learning Analytics **Purpose**



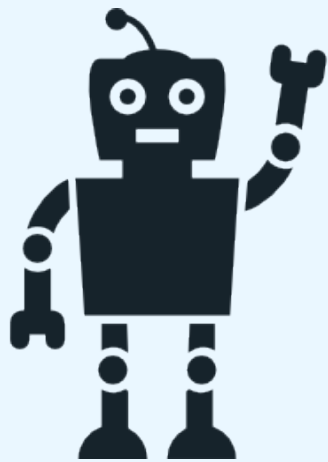
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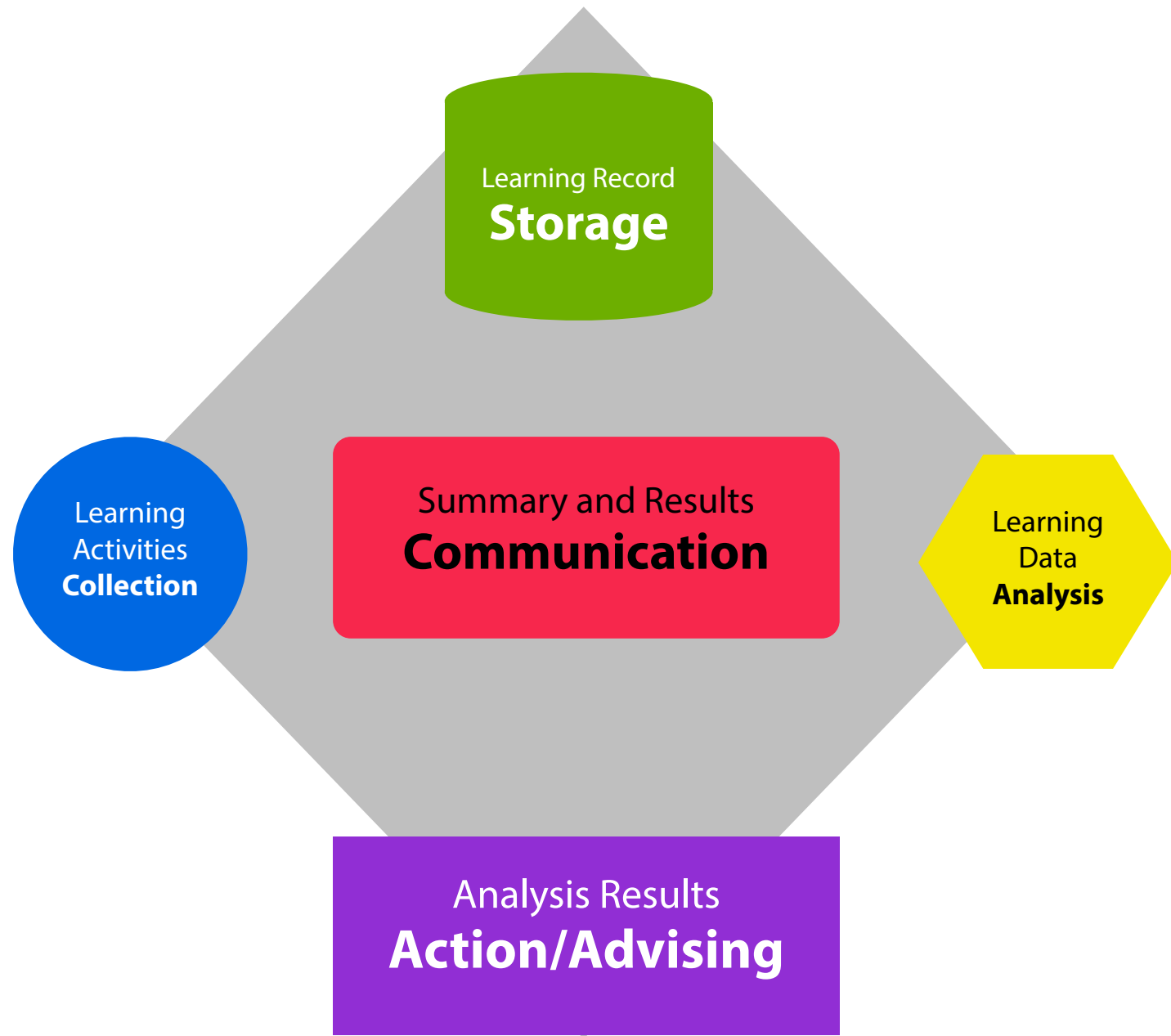
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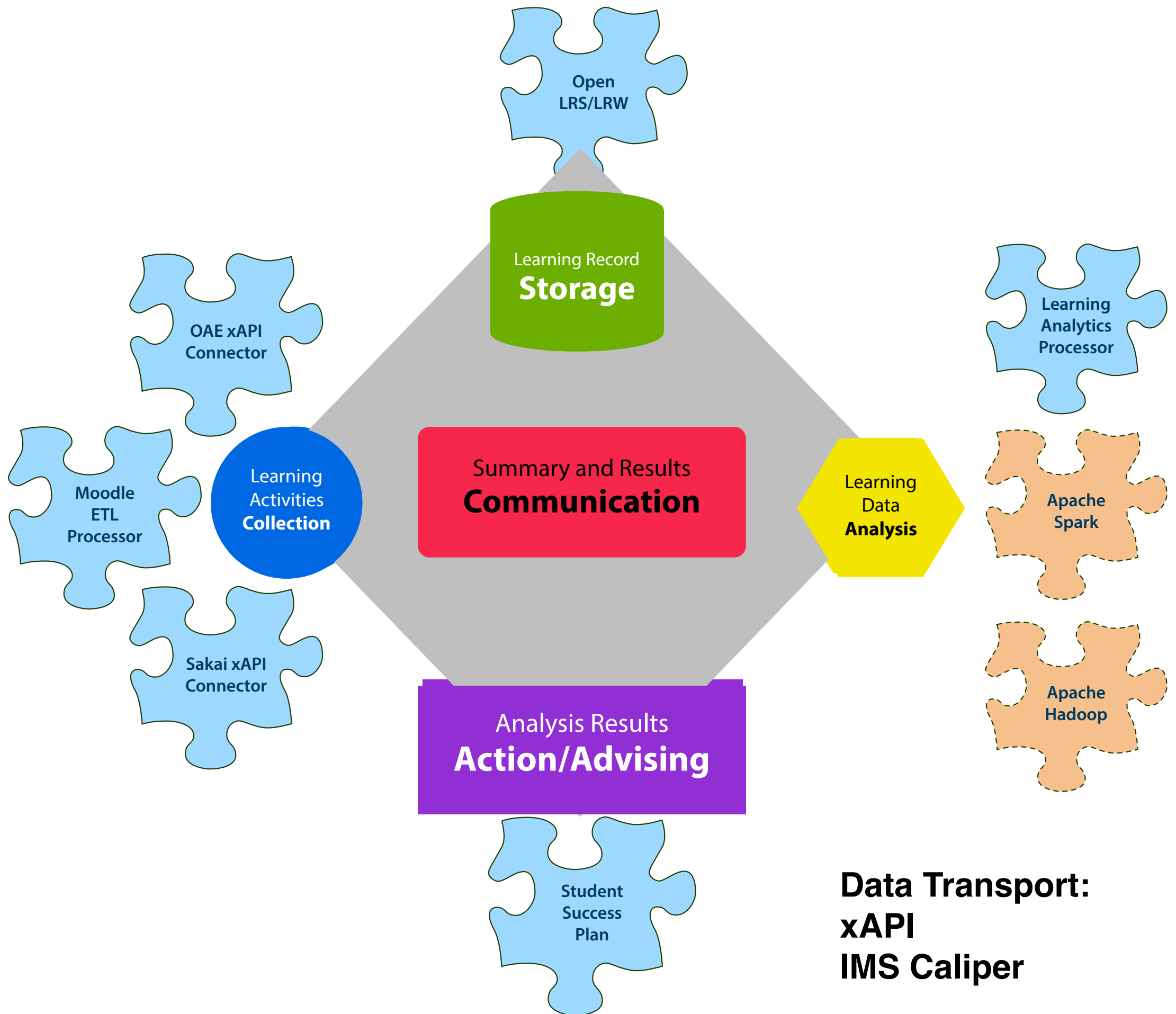
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# Learning Analytics Platform



# Learning Analytics Platform



## Why an Open Platform?

Neutral and unbundled

Flexibility and choice of components

Jisc UK national analytics service

Prepared for future development

## Transparency

*open source, open standards, open algorithms*



## A Connected Network of Partners



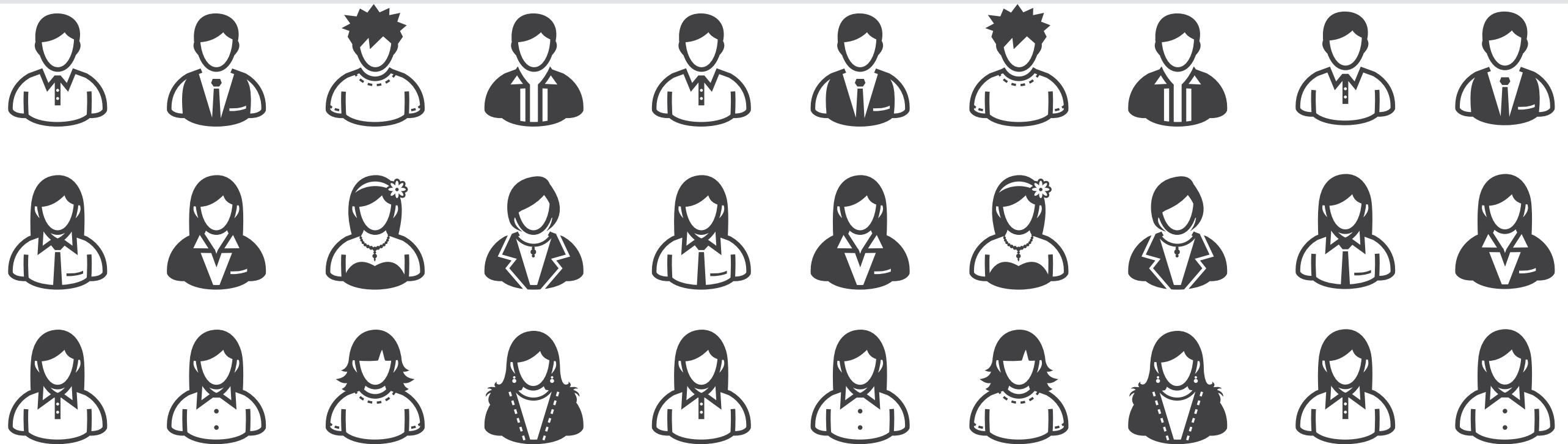
Established by ADL to  
steward xAPI



Research  
Practitioners



Large-scale  
deployments







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