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Empowering Learners: Implementing student-led insights and design in Imperial Learning Analytics

Learning Analytics Central Team
30/04/2024 Festival of Learning & Teaching

Outline

- 1 Introduction
- 2 Background
- 3 Key Findings from Student Insights
- 4 Research Insights
- 5 Addressing Challenges: Imperial's Approach
- 6 Imperial's Co-Creation Ideas for Student Dashboards
- 7 Summing up

Introductions

Presenters



Helen Walkey
Learning Analytics Product
Manager



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Data Analyst



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Data Analyst

Introduction

We envision a future where students are empowered to use accurate and secure data about their online learning behaviours and academic progression to help them reflect on their learning, set goals and learn well.

Empowering our Learners



Student-Led Insights



Collaborative Design Imperial LA

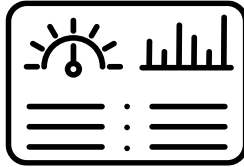


Background

Key Findings from Student Insights

Key Findings from Student Insights

1



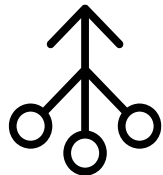
Use of data insights to aid their own learning and be treated as adults to manage their own learning.

2



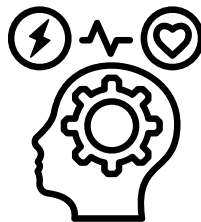
General lack of awareness of how Imperial uses their data. Desire for control over who sees data that identifies them.

3



Limited access to individuals and broader access to aggregated views.

4



More cautious about well-being data and data beyond their core learning experience such as extra-curricular.

Specific uses of Learning Analytics (LA) as mentioned by Imperial students

Focus Groups



Time management tool



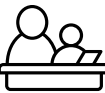
Assessment schedule and workload tool



Access to exam transcripts



Monitoring own progress



Aiding discussions with personal and academic tutors



Enhancing teaching and assessment



Identifying scholarships and opportunities

Research Insights

Research Insights

“What is the impact of LADs on students’ learning outcomes?” Results:

A recent study [1] scrutinized research papers examining the influence of learning analytics dashboards (LAD) on students’ learning outcomes.

The analysis revealed four main learning outcomes indicators:

- 1 Academic achievement
No evidence that LADs can improve it.
- 2 Motivation to learn:
Improvement are modest.
- 3 Attitude towards learning:
Improvement are modest.
- 4 Participation:
LADs demonstrated a relatively average impact.

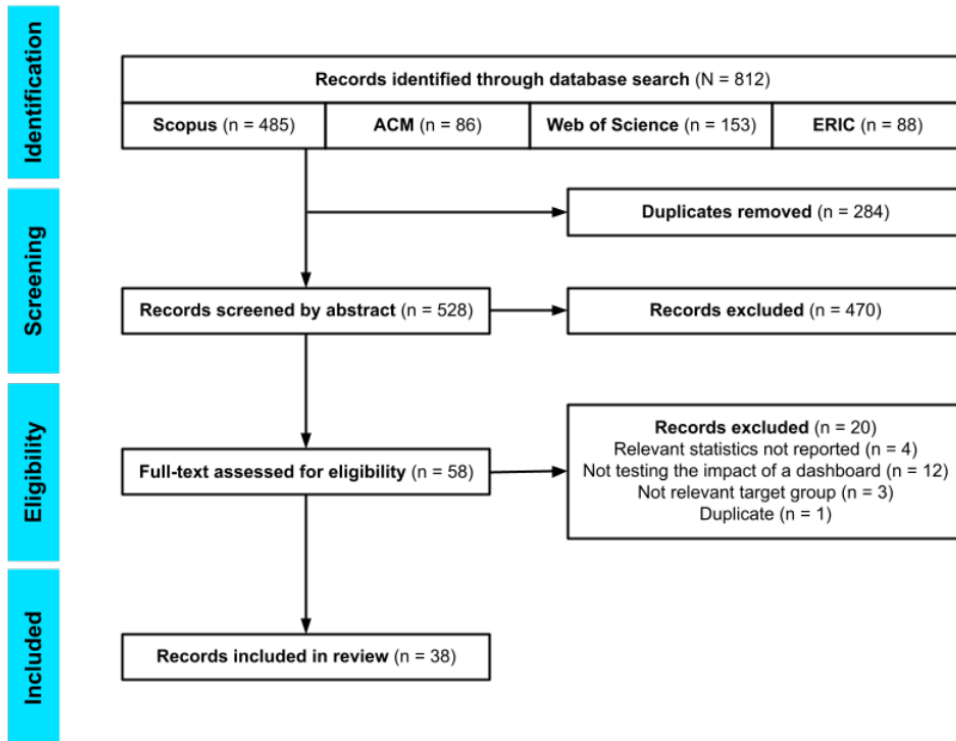


Figure 1: PRISMA flow diagram of records included in the review.

[1] Rogers Kaliisa, Kamila Misiejuk, Sonsoles López-Pernas, Mohammad Khalil, and Mohammed Saqr. 2024. Have Learning Analytics Dashboards Lived Up to the Hype? A Systematic Review of Impact on Students' Achievement, Motivation, Participation and Attitude. In Proceedings of the 14th Learning Analytics and Knowledge Conference (LAK '24). Association for Computing Machinery, New York, NY, USA, 295–304. <https://doi.org/10.1145/3636555.3636884>

Research Insights

What learning analytics can learn from students as partners? [2]

"Students as partners(SaP) is a metaphor for university education that challenges traditional assumptions about the identities of, and relationships between, learners and teachers." [3]

Three guiding principles [2]:

- 1 Respect and authentic inclusivity
- 2 Recognition of unique resources
- 3 Balancing power dynamics

Challenges that SaP may raise in a LA context [2]

- 1 Mismatch between design and capacity
- 2 Invalid inferences
- 3 Reconceptualizing from product to service

[2] Dollinger, Mollie & Lodge, Jason. (2019). What learning analytics can learn from students as partners. Educational Media International. 56. 1-15. 10.1080/09523987.2019.1669883.

[3] Matthews, K. E. (2017). Five propositions for genuine students as partners practice. International Journal for Students as Partners, 1, 2.

Addressing Challenges: Imperial's Approach

Addressing Challenges: Imperial's Approach

1

Co-creating tools with students to meet their needs.

2

Offering training for data interpretation skills.

3

Closing the trust gap:
Transparency and access to learning analytics.

Imperial's Co-Creation Ideas for Student Dashboards

[Prototype](#)



Selena Gheri
BSc Biological Sciences

- My dashboard
- My calendar
- My notifications
- My academic targets
- My modules
- My study activity
- My profile settings



Search



Dashboard

Year total



You have reached 95% of your target grade.
Great work!

Set new targets

Module breakdown

By grade By target percentage



Biological Chemistry and Microbiology

95%



Evolution and Diversity

100%



Cell Biology and Genetics

76%



Ecology and Evolution

100%

Set new targets



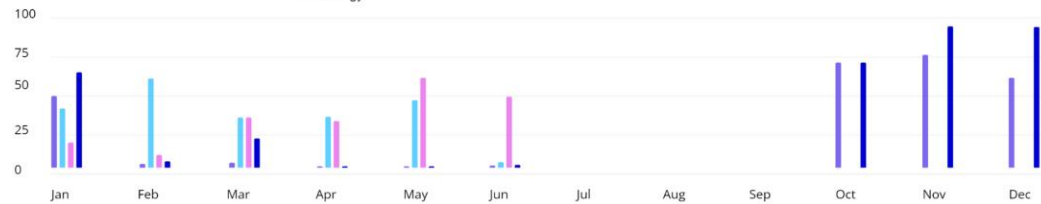
Smart suggestion

Focus on your upcoming exam for Cell Biology and Genetics module as it carries the most weight towards your module target.

Module engagement

Biological Chemistry and Microbiology
 Evolution and
 Cell Biology and Genetics
 Ecology and Evolution

This year



Notifications

View all



Cell Biology and Genetics

You are 24% away from achieving your target grade.

2 minutes ago



Group presentation - Evolution and Diversity

You have a group presentation assignment on 30 April 2024.

Set a reminder

1 hour ago



Ecology and Evolution

Congratulations! You achieved your target grade for Ecology and Evolution.

a day ago

Upcoming assessments

View calendar



30
Apr

Group presentation - Evolution and Diversity

10:00 - 11:00 AM



03
Jun

Tutorial report - Ecology and Evolution

17:00 - 18:00 PM



07
Jun

Cell Biology and Genetics written exam

10:00 - 11:00 AM



15
Jun

Evolution and Diversity written exam

10:00 - 11:00 AM



Selena Gheri
BSc Biological Sciences

My dashboard

My calendar 4

My notifications 5

My academic targets

My modules

My study activity

My profile settings



Search



My academic calendar

June 2024

+ Add

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

| | | | | | | |
|----|----|----|----|----|----|----|
| 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | 1 | 2 | 3 |

Tutorial report - Ecology and Evolution

17.00 - 18.00 PM

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Upcoming assessments

3

Jun

Tutorial report - Ecology and

17.00 - 18.00 PM

7

Jun

Cell Biology and Genetics

10.00 - 11.00 AM

15

Jun

Evolution and Diversity

10.00 - 11.00 AM

25

Jun

Group presentation

03.00 - 04.00 PM



Selena Gheri
BSc Biological Sciences

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Search



My academic targets

Year total targets

| Year 1 | Current grade | Target grade | Degree classification | Progress |
|-----------|---------------|--------------|--|---|
| 2023-2024 | 61.53 | 68.00 | Upper Second-Class Honours (2:1, 2.i) (60-70%) | 90% achieved Update target |

Modules and assessments targets

| Module | Current grade | Target grade | ECTS | Progress |
|---------------------------------------|---------------|--------------|------|--------------|
| Biological Chemistry and Microbiology | 56.7 | 65.0 | 15 | 90% achieved |

| Assessment | Achieved | Needed | Weight | Due date |
|--------------------------------|----------|--------|--------|-----------|
| Exam | --- | 65.5 | 60% | 15 May 24 |
| Write-up of Practicals (Excel) | 69.3 | --- | 5% | 21 Nov 23 |
| Practical report | 64.8 | --- | 20% | 04 Dec 23 |
| Online Maths Test | 57.3 | --- | 15% | 20 Mar 24 |

| Module | Current grade | Target grade | ECTS | Progress |
|---------------------------|---------------|--------------|------|-------------------------|
| Evolution and Diversity | 66.1 | 65.0 | 15 | Congrats! 100% achieved |
| Cell Biology and Genetics | 53.8 | 70.0 | 15 | 77% achieved |
| Ecology and Evolution | 65.5 | 65.0 | 15 | Congrats! 100% achieved |

Update targets

Smart suggestions

- Counselling and Mental Health**
Get in touch for advice and support
- Academic support**
See what academic support is available in your department
- Personal development**
Browse our personal development workshops and support services
- Imperial Horizons**
A range of modules for your personal, professional and intellectual growth
- Academic English**
Our Centre for Academic English can provide support with STEMM communication

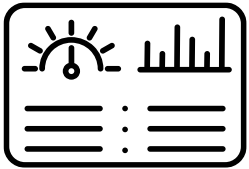
Summing up

Summing up

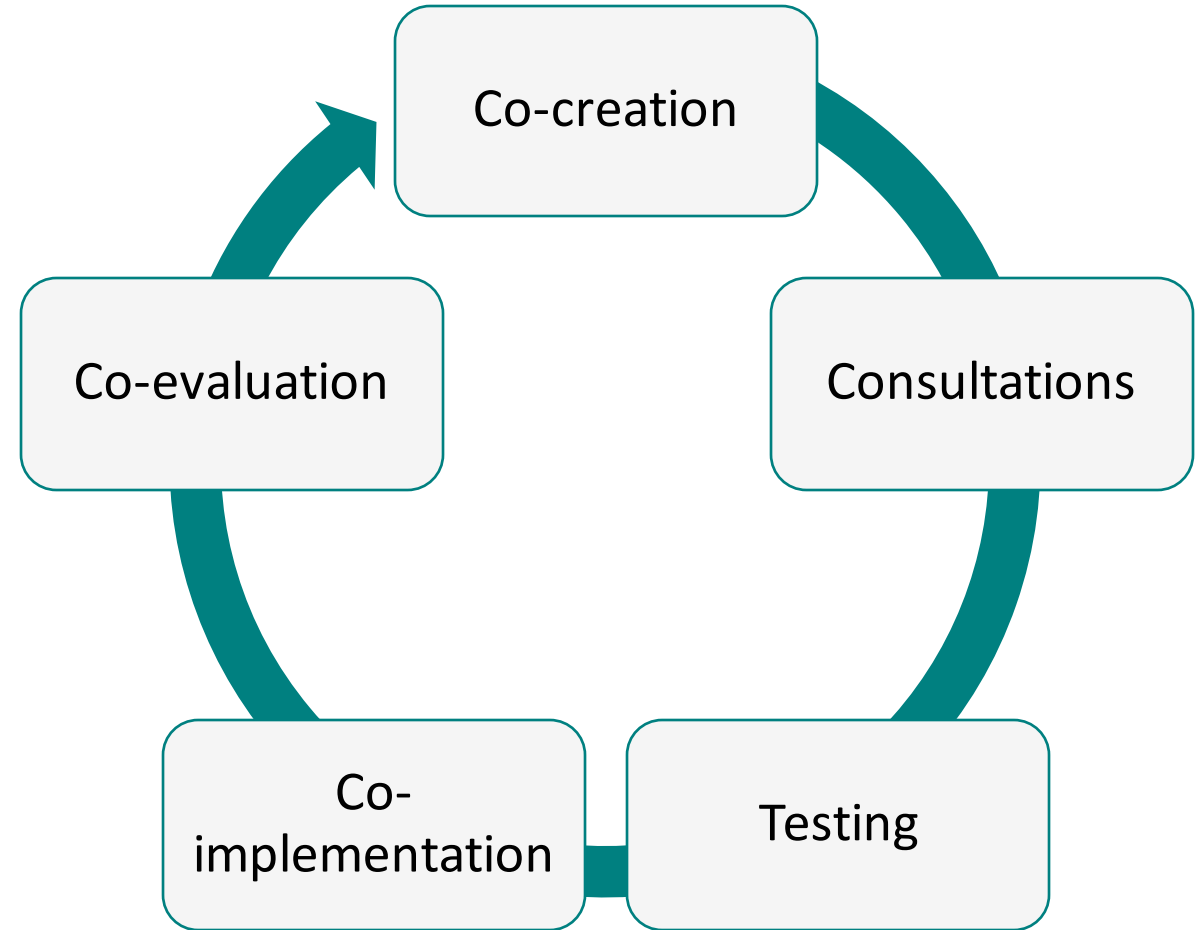
Learning analytics as a service, not a tool



Students as partners



One-stop shop –
collaboration with Registry



Acknowledgements

The partners and collaborators we have across the university.

Our Student Partners

Varsha Otta

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Maryam Fetanet

Ziming Huang

Particular mentions to...

Bobbi Borovanska

Charlotte Whitaker

Camille Kandiko Howson

Rosany Antonyvincent



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Join the conversation!

Interested in getting updates or giving inputs on the reporting we are developing for staff?

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Questions?

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