

## EUNIS Learning analytics workshop, Helsinki

### Participants:

More than 70 participants  
Almost 40 organizations  
10 different countries

CSC participants: Kaisa Kotomäki, Antti Mäki, Outi Tasala, Lara Anastasiou

Social media: #EUNIS

### Recording:

(to be added)

### Program and notes Thursday 11.10.2018

- [Welcome](#)
- [Supporting students via learning analytics: the NTU student dashboard / Jelena Matic, VP Education, Student Academic Experience Officer, Nottingham Trent University \(student union\)](#)
- [Learning analytics as a national initiative / Paul Bailey, JISC](#)
- [Developing learning analytics policy across Europe: the SHEILA project / Yi-Shan Tsai, University of Edinburgh](#)
- [Learning analytics as part of a dynamic feedback system / Joonas Pesonen, University of Helsinki](#)
- [Learning analytics and gamification / Elsa Cardoso, University Institute Lisbon](#)
- [Using analytics to support development of better study habits / Lauri Malmi, Aalto](#)
- [Continuous course improvement with learning analytics: Oulu Business School case study / Miska Noponen, Claned Group](#)

## Welcome

EUNIS, Gill Ferrell (JISC)

- It's all about community and sharing experiences with EUNIS
- Improving the student learning experience is at the core of it all

Aalto University, Christa Winqvist (Aalto University)

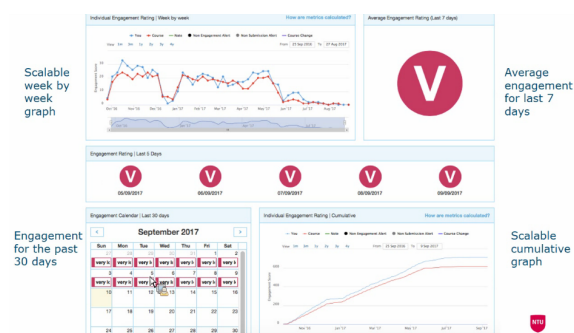
- Aalto is aiming to be a data driven university
- "Aalto analytics", not just learning analytics, but data that can support the whole Aalto University in teaching, learning and management
- "Be the game changers and have fun." Oppiminen/opettaminen ei ole muuttunut, mutta aika on. Tulevaisuus tuo uusia mahdollisuuksia analytiikan avulla.

## Supporting students via learning analytics: the NTU student dashboard / Jelena Matic, VP Education, Student Academic Experience Officer, Nottingham Trent University (student union)

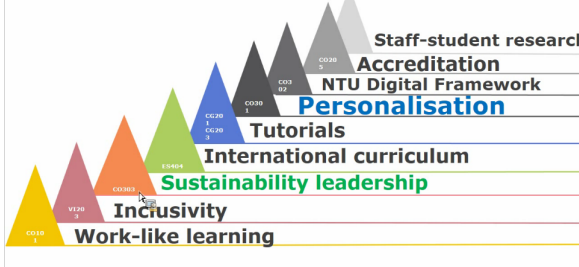
- Listening to students' voices in the UK universities very important, strong student union
- Student union have been a part of the development of the student dashboard from the beginning
  - If students are involved in the development they are much more likely to use the tool in the future
- Trent Institute for Learning and Teaching, TILT, works on collaborative learning
- Every course had to go through the curriculum refresh framework (see picture below)

*Screenshots of the presentation:*

Student view:

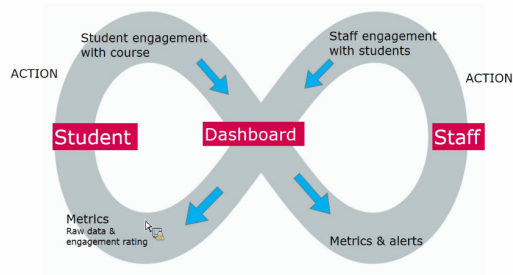


# Curriculum refresh FRAMEWORK



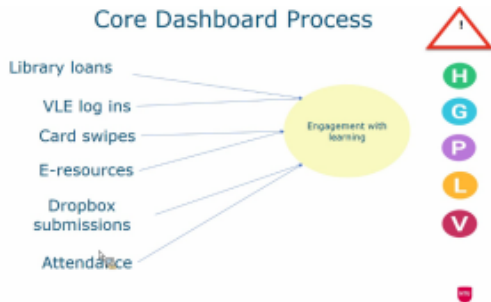
- Success for all - Tackling different attainment: important part of the university strategy
- Student dashboard pilot in 2013-14 and implementation 2014-2015, now ~30000 students and 2500 staff members use the dashboard
  - Not for evaluating failure risk, but focuses on engagement.

Dashboard is for staff and students

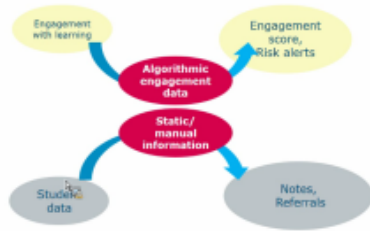


- Core Dashboard Process
  - Collecting data to analyze learning engagement
  - Attendance monitoring using mostly QR codes

## Core Dashboard Process



## Core Dashboard Process



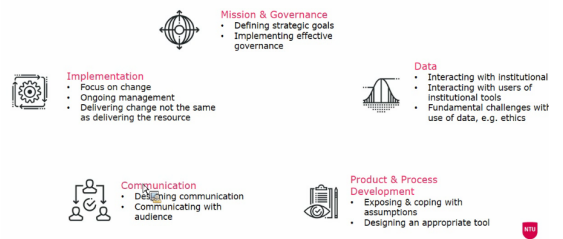
- New students as guinea pigs 😊
- 64% of the students find the dashboard useful. Students their self want to get the information about if they are in risk of drop out and what they can do no prevent it.

## Class view

Student ID	First Name	Last Name	Entry Quota	BTSC Quota	Age	Gender	Course Name	Course Level	Course Year	Study Mode	Statement of Access	Repeating	Attendance	Engagement Rating	Engagement Alerts
			AND level	N	19	F		Undergraduate	1	Full-Time	No	Not Repeating	88%	0	0
			AND level	N	19	M		Undergraduate	1	Full-Time	No	Not Repeating	22%	0	0
			International Intermediate (IB Diploma)	N	19	F		Undergraduate	1	Full-Time	No	Not Repeating	91%	0	0
			AND level	Y	19	F		Undergraduate	1	Full-Time	Yes	Not Repeating	34%	0	0
			AND level	N	19	F		Undergraduate	1	Full-Time	No	Not Repeating	87%	0	0
			Certificate of Higher Education (CertiH)	N	18	M		Undergraduate	1	Full-Time	No	Not Repeating	91%	0	0
			AND level	N	19	F		Undergraduate	1	Full-Time	No	Not Repeating	82%	0	0

Challenges of using learning analytics:

## Five challenges of implementing an institutional learning analytics solution



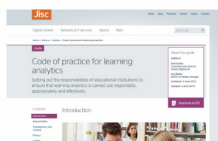
# Learning analytics as a national initiative / Paul Bailey, JISC

- National initiative in the UK; national body taking initiative for the universities
- Now looking into learning analytics labs
- Codesign and collaboration. Concerns that the institutions had: should we do this at all, should we put this much money into it
- **Effective learner analytics**
- **Ethics and GDPR:** (näihin kannattaa tutustua paremmin oppimisanalytiikan viitekehystä varten linkkivinkit myös analytiikkaäly-hankkeelle)

Jisc Learning analytics as a national initiative

## Toolkit: Code of Practice

- Code of Practice  
<http://www.jisc.ac.uk/guides/code-of-practice-for-learning-analytics>
- Literature Review  
[http://repository.jisc.ac.uk/5663/1/Learning\\_Analytics\\_A\\_Literature\\_Review.pdf](http://repository.jisc.ac.uk/5663/1/Learning_Analytics_A_Literature_Review.pdf)
- Template Learning Analytics Policy  
<https://analytics.jiscinvolve.org/wp/2016/11/29/developing-an-institutional-learning-analytics-policy/>
- Guidance on consent for learning analytics  
<https://analytics.jiscinvolve.org/wp/2017/02/16/consent-for-learning-analytics-some-practical-guidance-for-institutions/>



Jisc Learning analytics as a national initiative

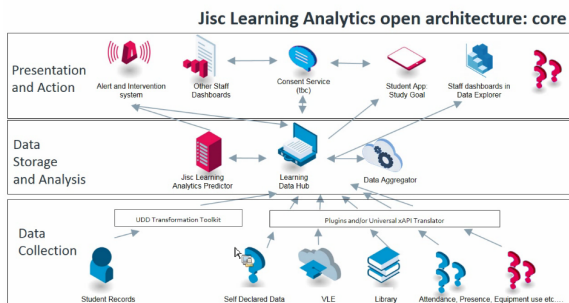
## Legal and ethical: consent and GDPR

- Advice is
- Make sure your collection notice covers the use of data to support the student learning and wellbeing
  - Not ask for consent for the use of non-sensitive data for analytics (our current understanding is that this can be considered as of *legitimate interest* or *public interest*)
  - Ask for consent for use of sensitive data (which, under the GDPR, is called "special category data")
  - Ask for consent to take interventions directly with students on the basis of the analytics



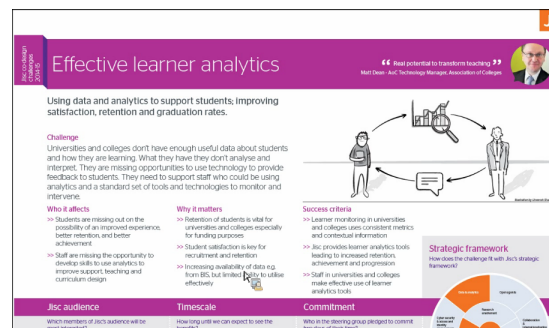
GDPR and Learning Analytics – Frequently Asked Questions  
<https://analytics.jiscinvolve.org/wp/2018/06/01/gdpr-and-learning-analytics-frequently-asked-questions/>

- **Open architecture:**



- **Future focus areas for JISC: employability** (tästä olisi kiva kuulla lisää IT-päivien esipäivän ohjelmaa ajatellen)

## Effective learner analytics and challenges:



Jisc Learning analytics as a national initiative

## Effective Learning Analytics Challenge

### Rationale

- » Organisations wanted help to get started and have access to standard tools and technologies to monitor and intervene

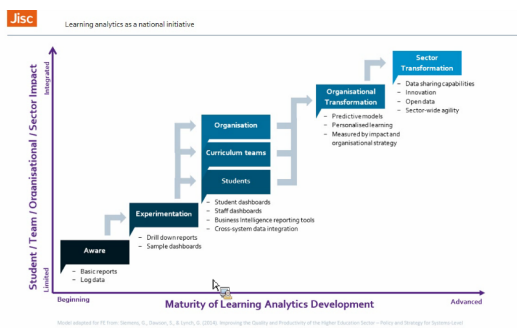
### Priorities identified

- » Code of Practice on legal and ethical issues
- » Develop a core learning analytics service with app for students
- » Provide a network to share knowledge and experience

### Timescale

- » 2015-17 Development
- » 2017-18 Beta Service
- » Aug 2018 Full Service

## Lessons learned:



Jisc Learning analytics as a national initiative

## Lessons Learned

### Implementation of learning analytics

1. Governance – senior management buy-in, wide engagement, dedicated project manager
2. Agreed goal – managing expectations
3. Clear strategic aims – see
4. The main benefits/challenges
  - » It is more than the "product"
  - » Data cleaning and business processes (assessment data, student status, etc)
  - » Improving student support process – managing interventions
  - » Good communication to staff and students

## Process:

## On-boarding Process

<https://analytics.jiscinvolve.org/wp/on-boarding/>

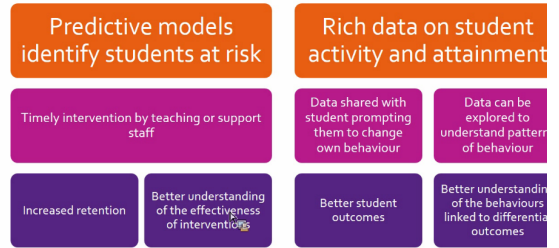
Stage 1: Orientation – get more info

Stage 2: Discovery – DIY and/or paid for consultancy

Stage 3: Culture and Organisation Setup – sign up for Jisc service and/or supplier products

Stage 4: Data Integration - push data to learning data hub

Stage 5: Implementation Planning

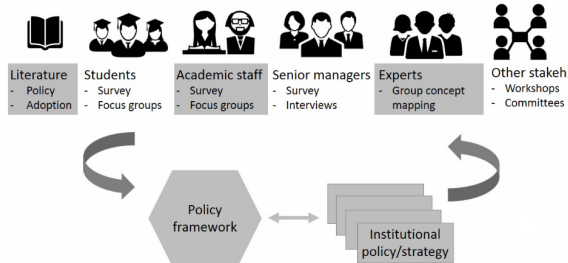


## Developing learning analytics policy across Europe: the SHEILA project

/ Yi-Shan Tsai, University of Edinburgh

- SHEILA officially just ended
- SHEILA team consisted of various organizations across Europe
- Starting point: hard to get data in a usable format. Aim to support the institutions to become more efficient custodians of the student data and to make student analytics ethical.

### Methodology

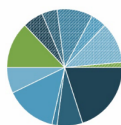


- Six key challenges identified:
  - Shortage of key leadership
  - Lack of training
  - No or few policies existing
- Motivation factors of adopt learning analytics:



Senior managers

46 institutions



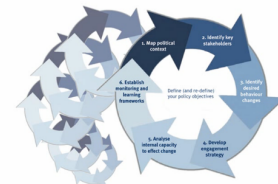
### Motivations to adopt learning analytics

- To improve student learning performance – 40 (87%)
- To improve student satisfaction – 33 (72%)
- To improve teaching excellence – 33 (72%)
- To improve student retention – 26 (57%)
- To explore what learning analytics can do for our institution/ staff/ students – 25 (54%)

Screenshots of the presentation:

Framework is based on next model:

### Rapid Outcome Mapping Approach (ROMA)



Yi-Shan Tsai, Pedro Manuel Moreno-Marcos, Ioana Jivet, Maren Scheffel, Kairit Tammet, Kaire Kollom, and Dragan Gasevic. (in press). **The SHEILA framework: Informing institutional strategies and policy processes of learning analytics.** *Journal of Learning Analytics*.

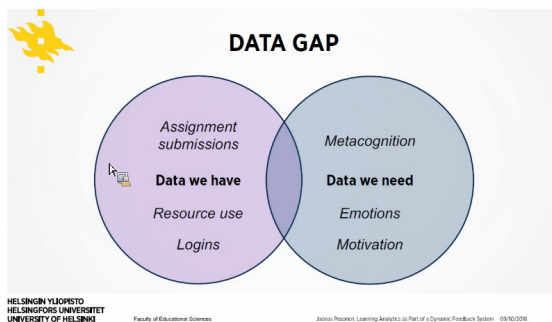
- Top concern of academic staff: is there time to do it at all (and is it necessary to do it..)

- Students concerned whether the use of data is ethical
- In the policy transparency and privacy deemed the most important
- SHEILA mooc coming (November 2018)

## Learning analytics as part of a dynamic feedback system

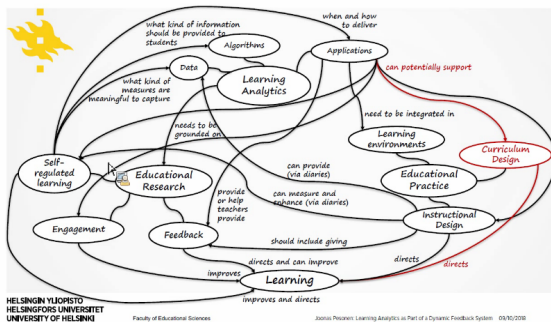
/ Joonas Pesonen, University of Helsinki

- We should be critical about if learning analytics actually has positive effect on learning, there is no scientific results about the topic
- There are many fundamental questions that should be taken into account when planning on using learning analytics
- Self-regulated learning are a core conceptual framework.
- Learning analytics dashboards as feedback personalized feedback to students



- Dynamic feedback systems:
  - diaries (example of self-reported process data) & learning diaries capture also motivation and emotion in addition to cognition
- For teachers: data of the course, students feelings possibility to adapt during the course
- Linking learning analytics with curriculum design by connecting the data

The whole picture with links:



Screenshots of the presentation:

**FUNDAMENTAL QUESTIONS OF LA (WINNE 2017)**

1. What data should be gathered?
2. What kind of LA interventions are valid?
3. Who generates data?
4. Who receives learning analytics?
5. What are learning analytics supposed to help improve?
6. What standards should be used to gauge improvement?

Winne, P. H. (2017). Learning Analytics for Self-Regulated Learning. In Columbia University, USA, C. Lang, G. Siemens, University of Texas at Arlington, USA, A. Wise, New York University, USA, ... University of Edinburgh, UK (Eds.), *Handbook of Learning Analytics* (First, pp. 241–249). Society for Learning Analytics Research (SoLAR).

**SELF-REGULATED LEARNING (SRL)**

- Self-regulated learning is a core conceptual framework to understand the cognitive, motivational, and emotional aspects of learning (Panadero 2017)

The diagram shows a cycle: Cognitive aspects → Planning, goal setting → Monitoring, control → Adapting, self-regulation → Emotional aspects → Motivational aspects → back to Cognitive aspects.

Panadero, E. (2017). A Review of Self-regulated Learning: Six Models and Four Directions for Research. *Frontiers in Psychology*, 8, 422.

Dashboard for teachers (emotions & motivations):



## Learning analytics and gamification / Elsa Cardoso, University Institute Lisbon

Defining the learning analytics:

- Analytics should be tied to the decision making process in the organisation
- "Putting analytics to work is about improving performance in key business domain using data and analysis."

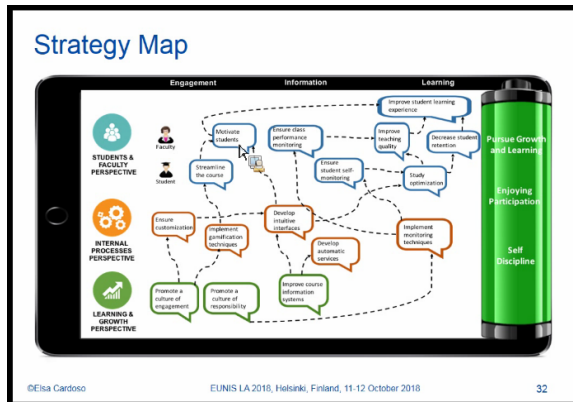
Screenshots of the presentation:



- In learning analytics BI and analytics techniques are applied to learners and their contexts

Gamification = the fun and engaging elements found in games applied to non-game contexts.

- Techniques used: XPs, Ranks, Quests, Events, Trophies, Badges, Avatars, Guilds, Leaderboards
- Strategy map done with students:



- Future: Storyboard for students (road of trials)

## Lessons learned

- Students value a timely-given feedback
- Learn to use sophisticated gaming mechanics, other than PBLs to promote engagement
- Integration into the same platform is very important

- Don't forget to have **fun!**

## Analytics: types of questions



(Adapted from Davenport et al., 2010)

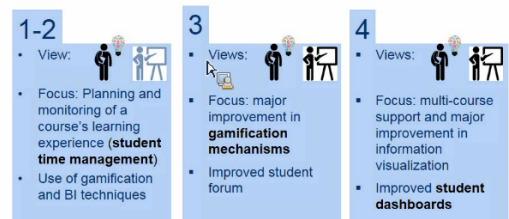
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tätä kannattanee verrata oppimisanalytiikan viitekehysten pääkysymyksiin ja rakenteeseen

## LS Roadmap

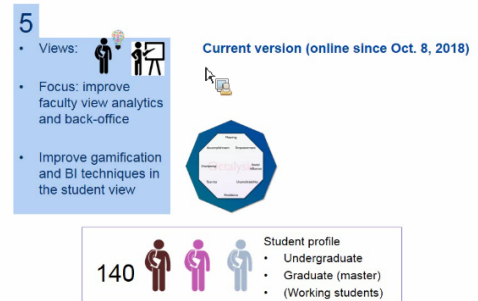


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## LS Roadmap

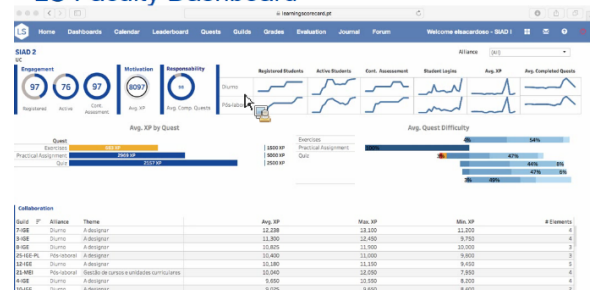


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## LS Faculty Dashboard



(Cardoso et al., 2018)

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- student learning data, focus on: engagement, motivation, responsibility and collaboration
- monitoring of aggregated data

## Using analytics to support development of better study habits / Lauri Malmi, Aalto

- Feedback needs to be timely. Challenges in processing feedback from massive courses.
- Assignments should really have impact on e.g. grade, for example 80% of the grade, and tests would be just to check that the person completed the assignments him/herself
- Gamification / visual progress feedback supports students with different motivation  
(sama toimii myös opiskelijapalautteiden kanssa, jos opiskelija saa palautteestaan palautetta, vaikka sitten myöhemmin tiedon, että palautteella on vaikutusta tätän ja tähän, opiskelijoiden motivaatio antaa palautetta kasvaa)
- Predictions based on your profile.
- Badges work well on performance orientated students. For performance-avoidance students neutral visualizations are better (heatmaps)
- Feedback on the study process

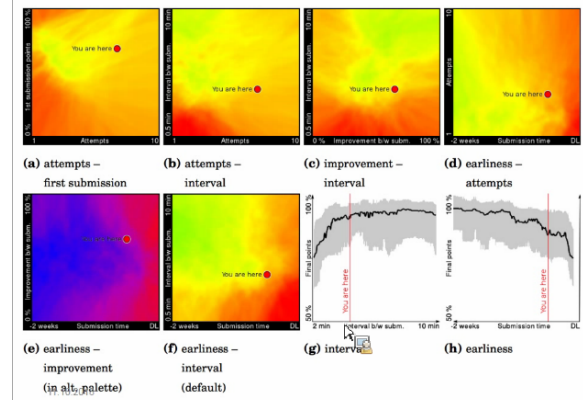
Screenshots of the presentation:

Tools for students to help self-monitoring (feedback, predictions and alarms):



Aalto University  
School of Science  
11.10.2018

Supporting Self-Monitoring



## Continous course improvement with learning analytics: Oulu Business School case study / Miska Noponen, Claned Group

- AI-powered learning environment
- Tracks the factors impacting learning thus helping learners to optimize their study motivation.
- One example: challenging students at beginning of the course, students will be more motivated, not so many dropouts.

Screenshots of the presentation:

- Activity map:

