Welcome to NTU

	Activity	Presenter
2.30 – 2.40 pm	Welcome, teas & coffees	
2.40 - 3.00 pm	NTU Vision for Learning Analytics	Steve Denton Chief Operating Officer and Registrar
3.00 – 3.45	Understanding the NTU Student Dashboard Student perspectives on implementing & using learning analytics Lessons learnt from the NTU Student Dashboard	Jacqui Tyler Head of Digital Solutions Magda Marzec Student Academic Experience Officer (former VP Education) & Alisha Wala BA Business Management & Human Resources (year 3) Dr Rebecca Siddle Lead Learning Analytics Researcher (10 mins presentation)
3.45 – 4.00 pm	Break	
4.00 – 5.00 pm	Group Discussion	Ed Foster Student Engagement Manager

Welcome to NTU
Steve Denton, Chief Operating Officer & Registrar

Nottingham Trent University

Animal, Rural & Environmental Sciences
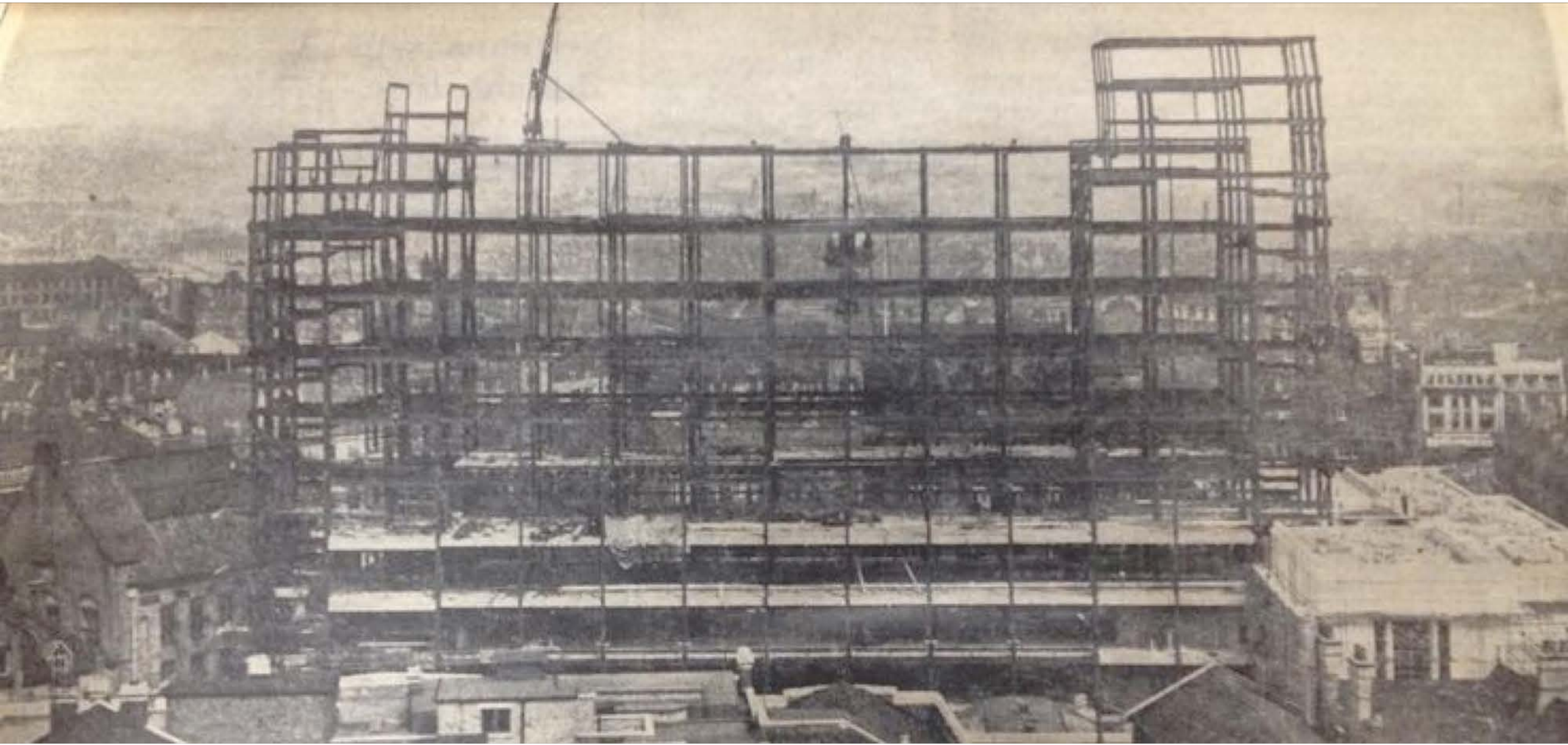
Architecture, Design & the Built Environment
Art & Design
Nottingham Business School
Nottingham Law School
Social Sciences

Confetti

Science & Technology

Arts & Humanities

We are recognized for our work

NTU's vision for Learning Analytics

Our Vision for Learning Analytics (LA)

Our focus is on engagement, not risk of failure
We use the best proxy for engagement we can using students' electronic footprint
We do not measure socio-economic disadvantage
Developed from involvement in national research into student retention: 'What Works'

Student-Managed Success
- Providing students with data to self-regulate own learning
- Comparisons to peers
- Assignments & feedback

Staff-Supported Success
- Insights and information for staff about students
- Referrals to professional services

Improving staff-student working relationships
- Sense making about students
- Information for personalised tutorial discussions

Improving institutional data, insights & systems
- Cohort insight
- Usable data for research purposes

Implementing Learning Analytics

- We are the first UK University to implement Student & Staff-facing Analytics
  - Continuously used since 2013

- Pilot year 2013/14
  - Four first year courses, 45 staff, 500 students

- Full implementation 2014/15
  - All nine academic Schools, undergraduate and postgraduate taught students
  - Implementation included staff development, student resources, ethical use policy, improved processes for mapping students to their tutors

- The most recent upgrade was the implementation of V4 in Sept 2018

- We are continuing to work with the developers to make improvements

Contributing to the sector's understanding of LA

- We are featured in press, media and national reports

- We spoken to Ministers and Senior Civil Servants

- This is the 30th visit from other British, European & international institutions

- Three Erasmus+ projects

  - ABLE, STELA (2015-2018) – challenges implementing learning analytics

  - OfLA (2018-2021) – using learning analytics to enhance tutoring & other forms of support
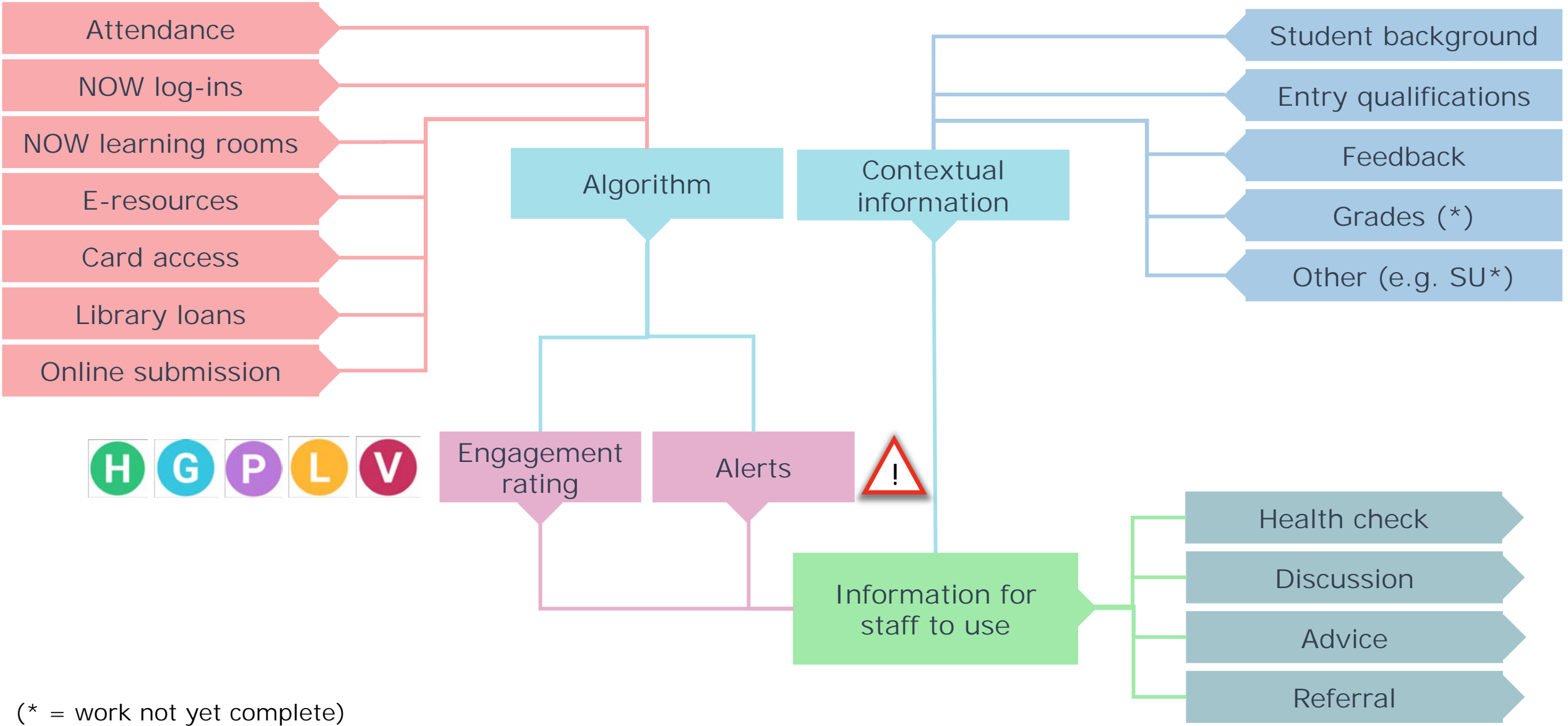
The NTU Student Dashboard
Jacqui Tyler, Head of Digital Solutions
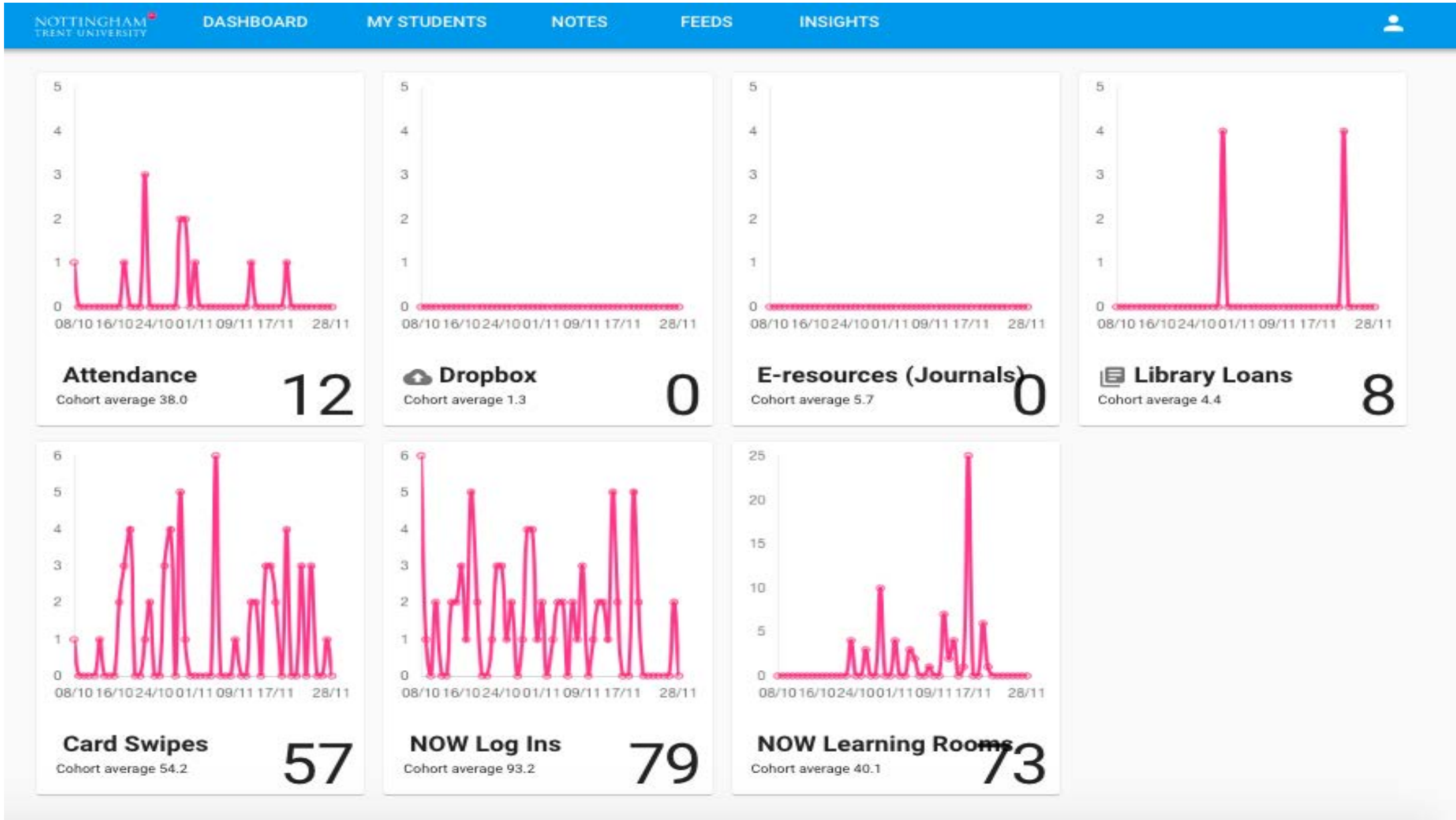
How the Dashboard works

(* = work not yet complete)

Student Dashboard

Dashboard Data Sources

Intervention 1 - Referral

Note   06/11/2018   Not Applicable   IN PROGRESS

Description
- Currently in contact with someone, maybe from student services, concerning mental health issues. - [redacted] believes she may be entitled to some sort of disability allowance. - I have advised [redacted] to contact student services regarding any mental health issues, if she hasn't done so already. - [redacted] has suggested that her mental health issues have affected her ability to attend uni and to complete work.

Author
[redacted]

Note Category
Not Applicable

Comments

This Note has been referred to Student Support

06/11/2018 14:23

Student name
[redacted]

Student ID
[redacted]

☑ I confirm I have consent to make this Referral

Note ID
103955

Opened
06/11/2018

Referral Received by SSS

Communication approach
Face to face

Communication date
19/10/2018

[redacted]   09/11/2018 14:03

Actions
Contact student services for advice on any mental health issues.

Meeting duration
10 minutes

Target date

Send me email reminder in
No reminder

🗑 DELETE   ✏ EDIT   ✔ COMPLETE   Add comment

Intervention 2 – Follow up

Note 20/11/2018 **Not Applicable** ⚙ **NEW** ∧

Description

Dear All, I have just met with a year one student L████████ and her support worker ████ is suffering with some quite major mental health issues, which she is working through with the help of student support. She is behind with her work but really wants to catch up with what she has missed to date. She is going to email all tutors to request a meeting to talk about what she needs to catch up on which is being assessed. I have made her aware that if she needs an extension she could have one but she would like to try and get the work completed for the deadline so she can go home and rest over Christmas.

Author
████████

Note Category
Not Applicable

Comments

Student name
████████

Student ID
██ █████

Note ID
106732

Opened
20/11/2018

No comments added for this note. Be the first one to comment.

Communication approach
Face to face

Communication date
20/11/2018

Actions
Email tutors to get support with work missed to date

Meeting duration
30 minutes

Target date

Send me email reminder in
No reminder

🗑 **DELETE** ✏ **EDIT** ✅ **COMPLETE**

Add comment

Growth in Usage

Staff log ins (2013/14 - 2017-18)

	2013-14	2014-15	2015-16	2016-17	2017-18
Total number of staff log-ins	2.440	16.910	23.764	42.766	41.794
Number of staff who logged in	200	1.528	2.056	2.597	1.451

Number of staff who logged in — Total number of staff log-ins
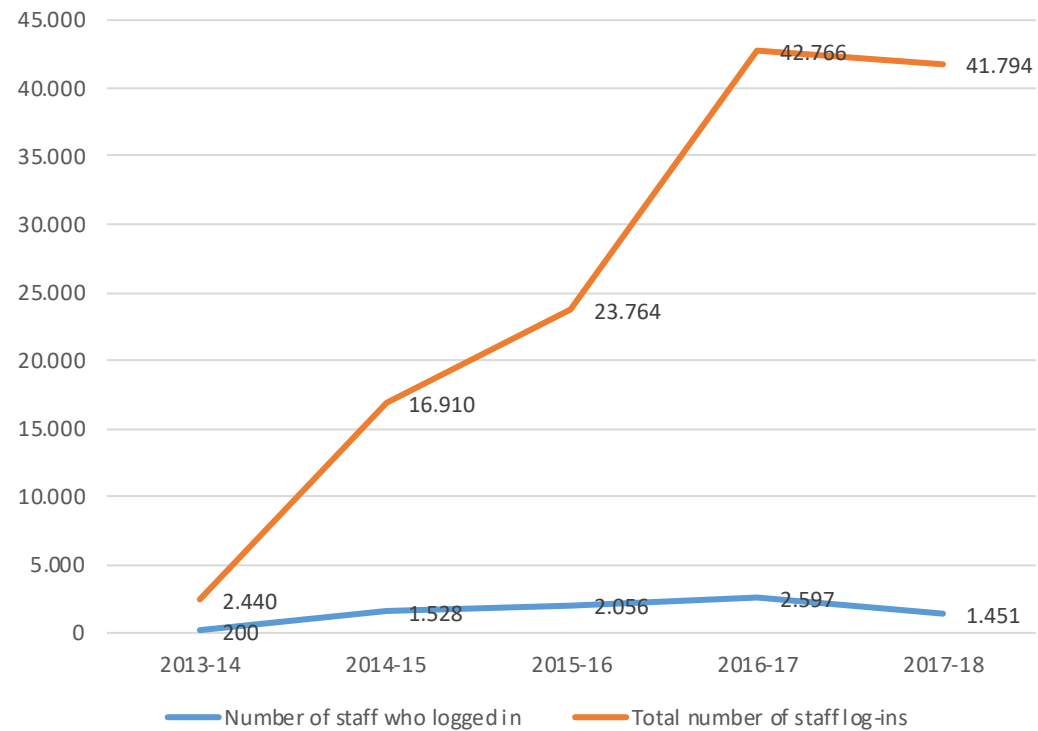
Student log ins (2013/14 - 2017-18)

	2013-14	2014-15	2015-16	2016-17	2017-18
Total number of student log-ins	48	133.613	332.921	553.468	446.917
Number of students who logged in		15.734	25.893	28.486	30.290

Number of students who logged in — Total number of student log-ins
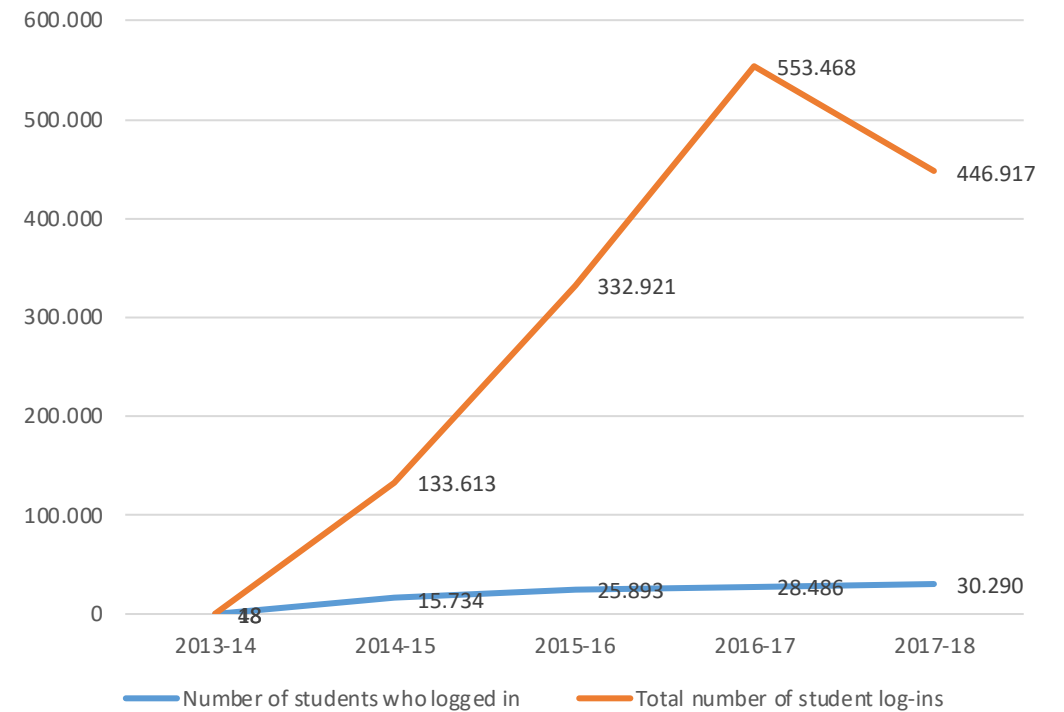
Impact of resolving problems in 2017/18

**NTU Student Transition Survey 2016/17 - 2018/19
Students who found the Dashboard useful
(4/5 out of 5)**

ABLE Project: institutional challenges model

Students' Role in Developing the Dashboard
Magdalena Marzec, Student Academic Experience Officer (former VP Education)

Student Voice at NTU

VP Education
Afua Acheampong is an elected representative who forms part of the Exec. She works with all the School and Course Representatives and sits on several high-level meetings on your behalf.

School Representatives
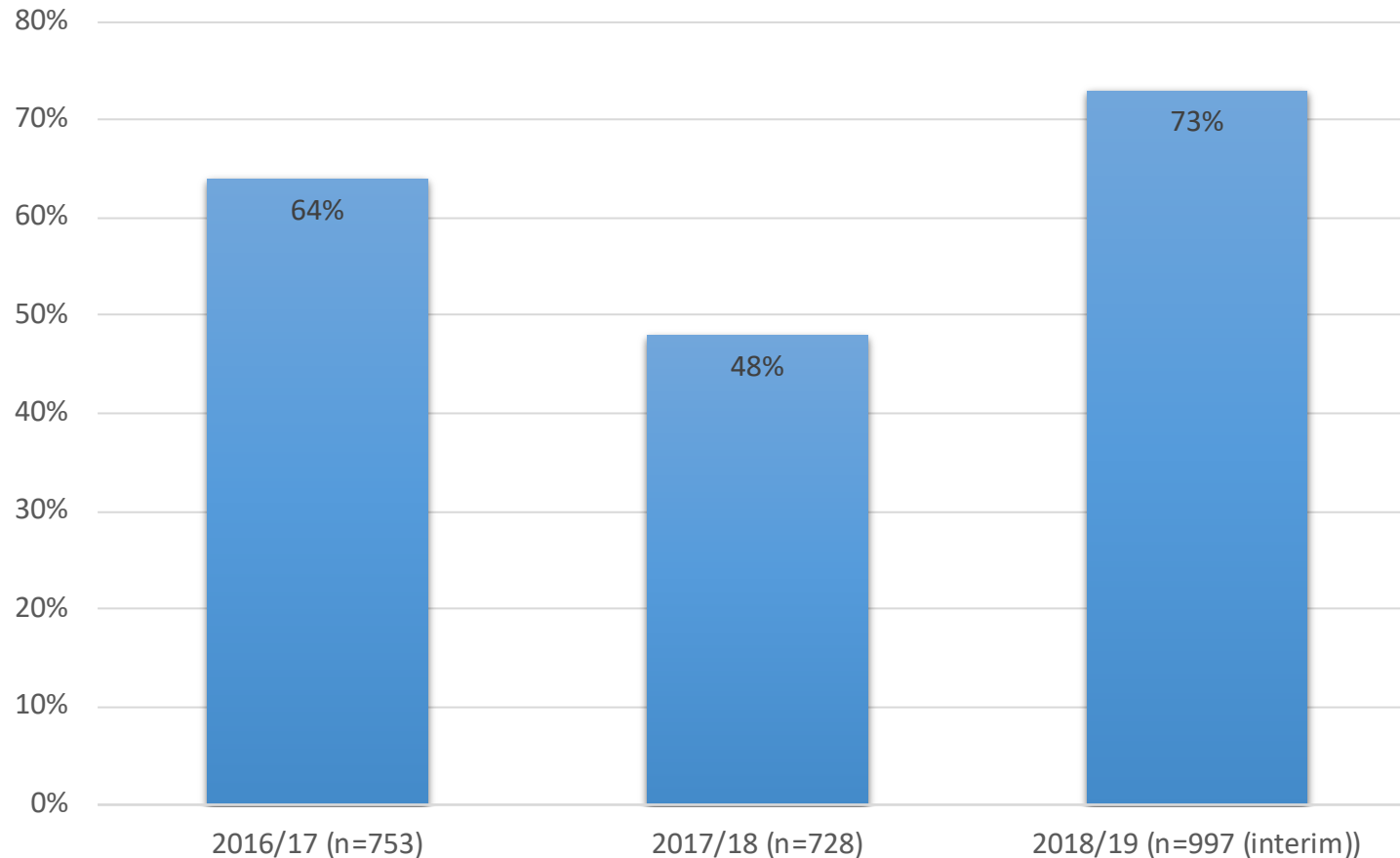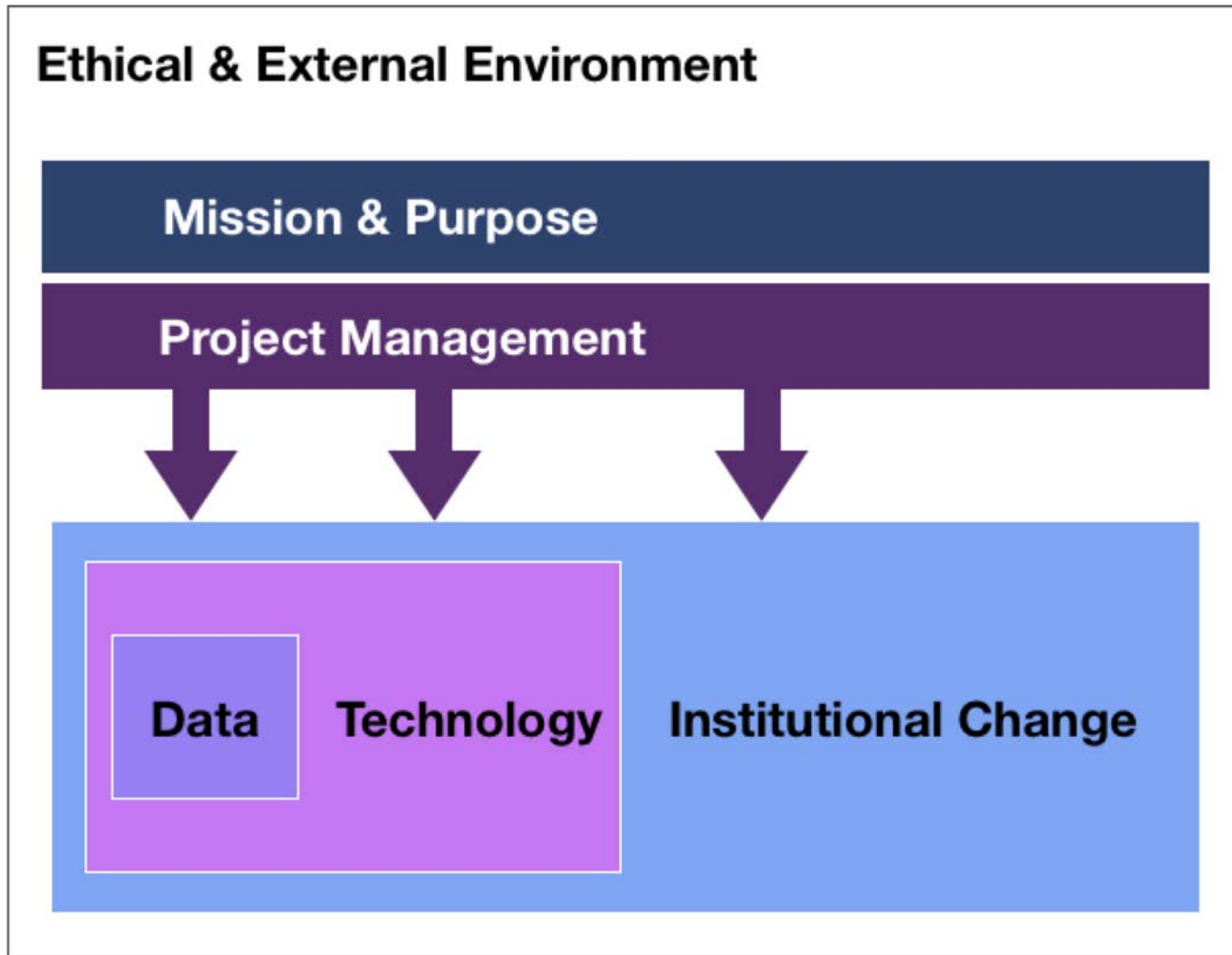Schools Representatives are elected by the students in their year of their school. They provide the VP Education with School-specific feedback collected by themselves and Course Reps. School Reps attends School Forums where they meet with senior School staff and their Dean.

Course Representatives
Course Representatives represent the students in their years of their course. They work with the VP Education and School Reps to collect feedback and attend Course Committee meetings where they meet with academic staff and other Course Reps.

Students
Students provide crucial feedback that directs the work of NTSU, all academic reps and academic staff.
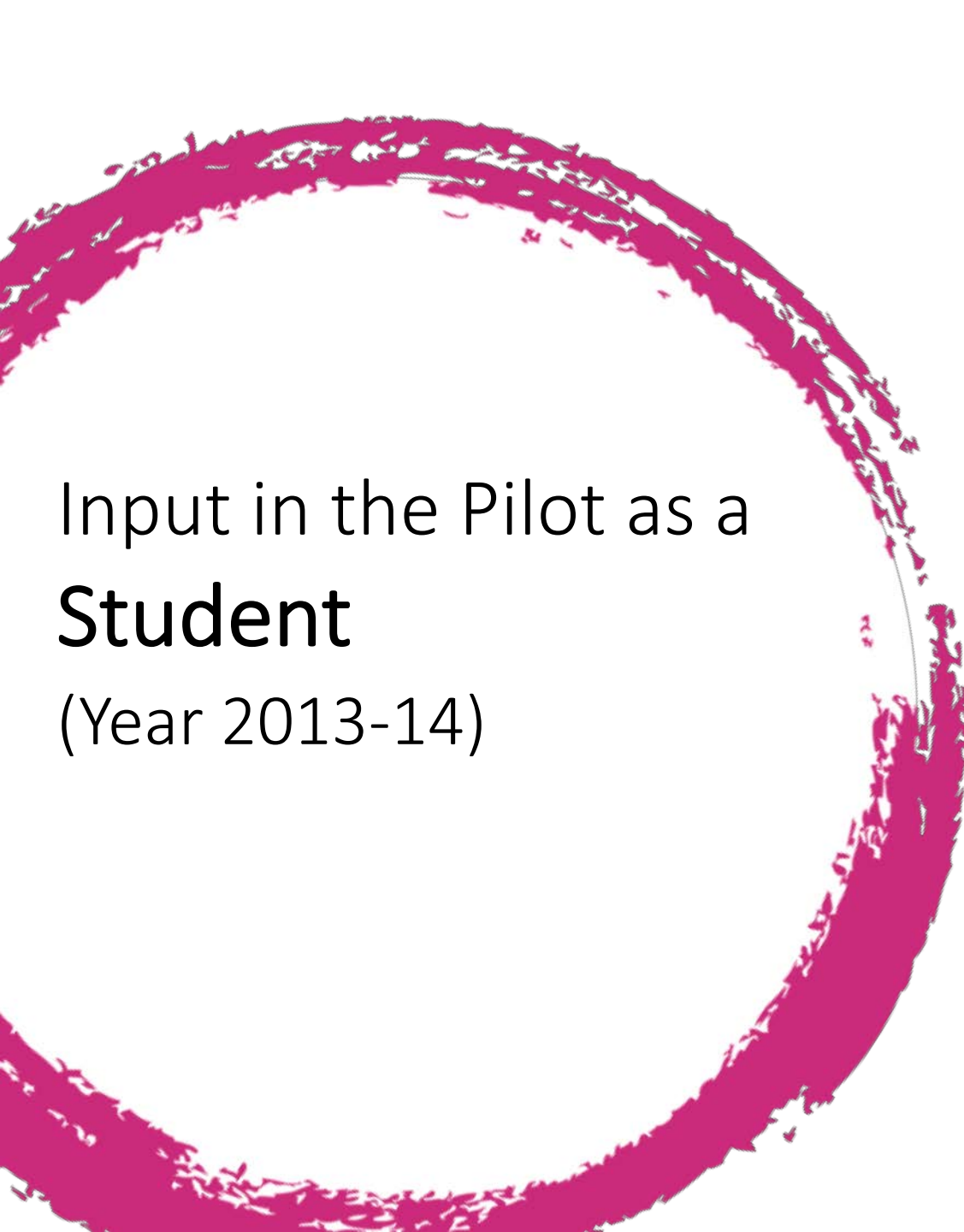
Input in Product Development as a
Student
(Year 2012-13)

Student Transition Survey – as a first year student, I was asked: *'if we were to use data to help you succeed and engage better with the University, would you be interested?'*

- ✓ Great to have a say before it all started
- ✓ Positive language from the start
- ✓ 'We asked, you did'

Students' Union Officers involved

- ✓ It was good to see that the people 'in charge' were on board
- ✓ More confident to give them feedback

NTU

Input in the Pilot as a Student
(Year 2013-14)

Focus Groups

- ✓ Free food
- ✓ Fun and exciting
- ✓ Open conversations were any feedback was welcome
- ✓ Feedback was addressed
- ✓ Students Union Officers involved

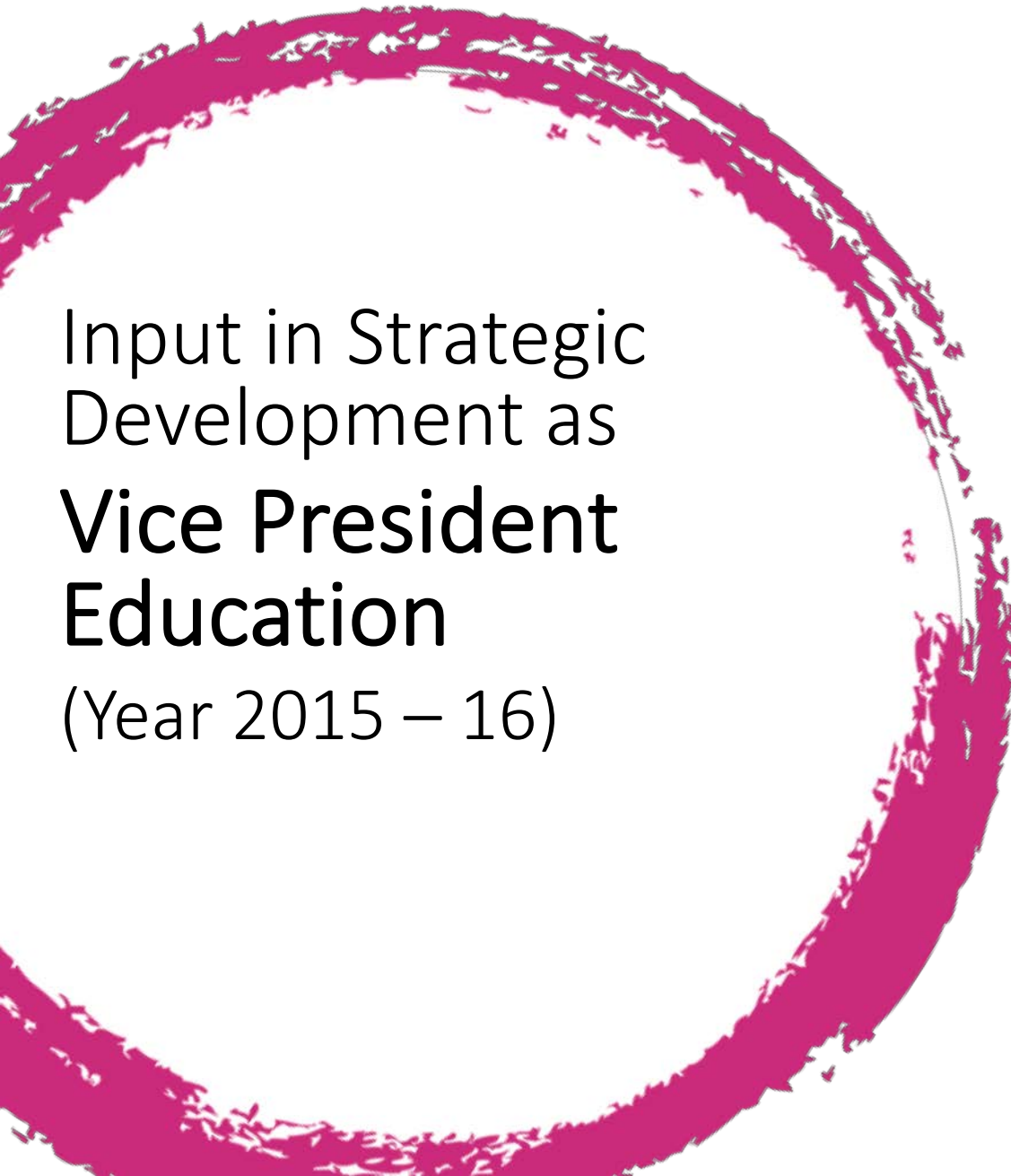**Dashboard Working Group launched**

- ✓ Involved Vice President Education
- ✓ Student Intern
- ✓ The feedback from 'student body' was being passed on

Input in Institutional Implementation as a
Course Representative
(Year 2014 – 15)

Student Information Systems Committee – Course Reps were offered the opportunity to be involved in representing their peers on this committee and developing the platform further

- ✓ I was treated a partner/ consultant
- ✓ I felt empowered to give feedback (positive and negative!)
- ✓ I was only responsible for providing the view of my course peers – not the entire university.
- ✓ The committee was widely represented – different student groups gave different feedback
- ✓ Student intern was the chair
- ✓ 'The important person' in the room
- ✓ Feedback loop – always heard what changes were made and how

NTU

Input in Strategic Development as
Vice President Education
(Year 2015 – 16)

Dashboard Working Group

- ✓ My student feedback was taken into account at the highest level
- ✓ The Dashboard Team came and worked directly with over 300 of my School and Course reps.
- ✓ The Dashboard Team ran workshops to understand what needs to be done - changes were made (Feedback loop!)
- ✓ Always in a conversation – not just when things were not going so well
- ✓ Gave 'wins' to the Student's Union

NTU

Using the Dashboard
Alisha Wala, BA Business Management & Human Resources (year 3)

What is the Dashboard?

- An online feature available on our NOW portal
- NTU Online Workspace
- It is also easily accessible on the MyNTU app (on both Android and iOS devices)

- The feature monitors our engagement and attendance
- It shows us graphical statistical comparisons between ourselves and the course average

How do you use it?

ENGAGEMENT   PROFILE   NOTES   ATTENDANCE   RESOURCES   ASSESSMENTS
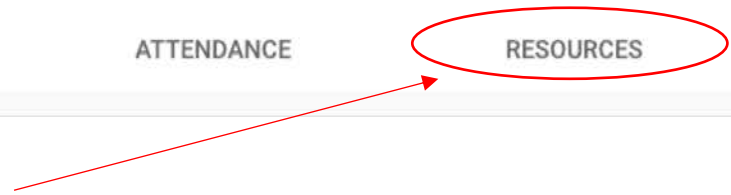
Date	Resource	Usage
14/03/2019	Attendance	2
	Library Loans	1
	Card Swipes	2
	NOW Log Ins	4
	NOW Learning Rooms	1
13/03/2019	Card Swipes	1
	NOW Log Ins	1
	NOW Learning Rooms	1
12/03/2019	Card Swipes	1
	NOW Log Ins	1
	NOW Learning Rooms	1
11/03/2019	E-resources (Journals)	1
	Card Swipes	2
	NOW Log Ins	4
	NOW Learning Rooms	7
10/03/2019	E-resources (Journals)	1
	NOW Log Ins	4
09/03/2019	Card Swipes	1
08/03/2019	NOW Log Ins	5

Resources

ENGAGEMENT   PROFILE   NOTES   ATTENDANCE   RESOURCES   ASSESSMENTS
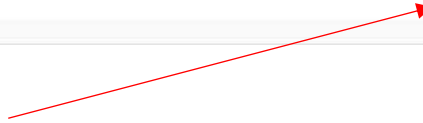
Attendance

From
📅 15/02/2019

To
📅 14/03/2019

Average attendance for the time period selected: **100.0%**

Summary for the time period selected

Description	Expected	Attended	Percentage:
BUSI30520_2143	1	1	100%
BUSI32617_23508	2	2	100%
BUSI32750_26625	2	2	100%
INTB30605_2091	7	7	100%
INTB30608_2100	3	3	100%

Details

Date	Description	Attendance Status	Status ⓘ
14/03/2019	BUSI32750_26625	ATTENDED	✓
14/03/2019	INTB30605_2091	ATTENDED	✓
07/03/2019	INTB30605_2091	ATTENDED	✓
07/03/2019	INTB30605_2091	ATTENDED	✓
04/03/2019	BUSI32617_23508	ATTENDED	✓
04/03/2019	INTB30608_2100	ATTENDED	✓

Student's Perspective

- A physical reminder of attendance

- A way to compare your engagement with your course average

- A motivating element of NOW
  - For example: "Hey my attendance has been low last week, let's go to this lecture to get it back up" etc.

NTU

A way to monitor time spent

- How much time spent looking on content online on NOW
- How many times you access the Newton building (main City campus location)
- How many books have you taken out of the library

Attendance 2

Dropbox 0

E-resources (Journals) 2

Library Loans 1

Card Swipes 7

NOW Log Ins 19

NOW Learning Rooms 15
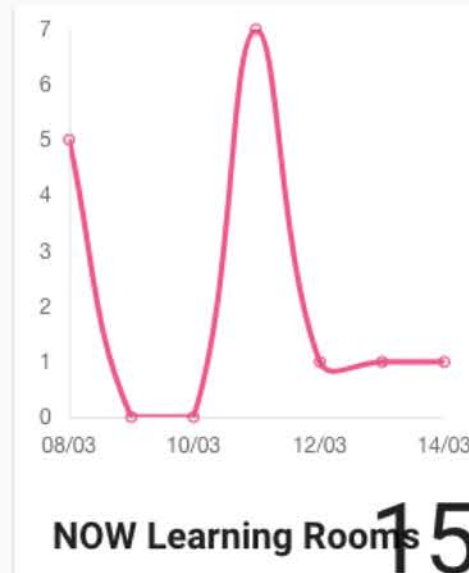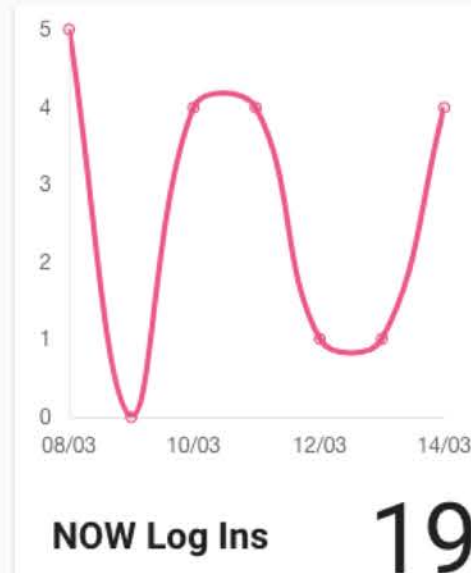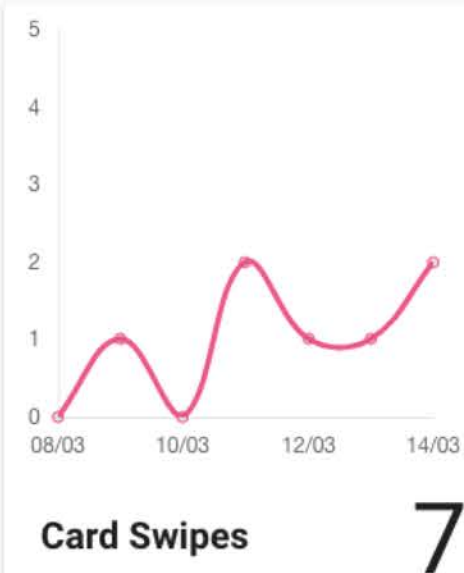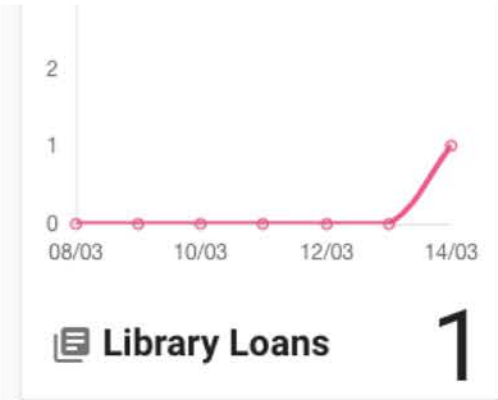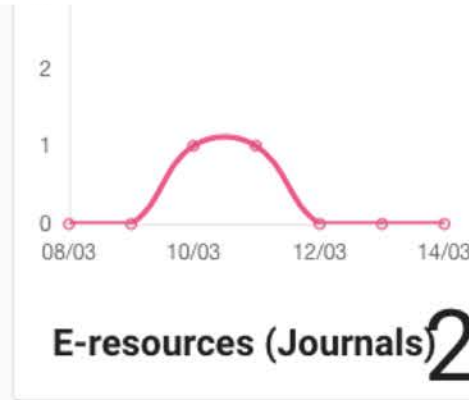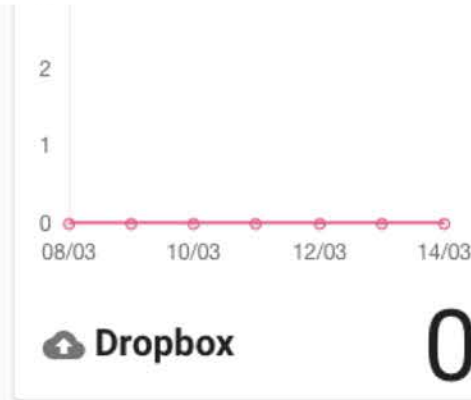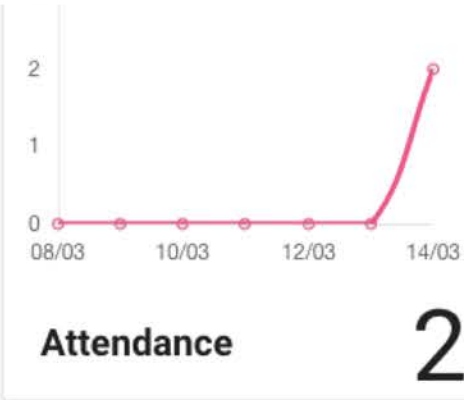
If you have any further questions you can contact me directly via LinkedIn: Alisha Wala

NTU

Learning Analytics Research
Dr Rebecca Siddle, Lead Learning Analytics Coordinator

Contents

- Relationship between student engagement and success

- Relationship between use of the Dashboard and success

- Case study of using engagement data to measure impact (library)

- Case study of hosting an activity within the Dashboard (induction)

- Impact of the Dashboard on student behaviour

(Links to further detail throughout slides)

NTU

Relationship between engagement and success

Engagement and success

- Analysis is based on average (mode) engagement for days enrolled

- Higher engagements is associated with higher progression and higher attainment

First year, full-time undergraduate outcomes based on average engagement rating for 2017/18

| Very Low | Low | Partial | Good | High |
| (n=228) | (n=595) | (n=3,368) | (n=2,381) | (n=1,738) |

Key: Did not progress · Progressed with a grade equivalent to a 2:2 or lower · Progressed with a grade equivalent to a 2:1 or 1st
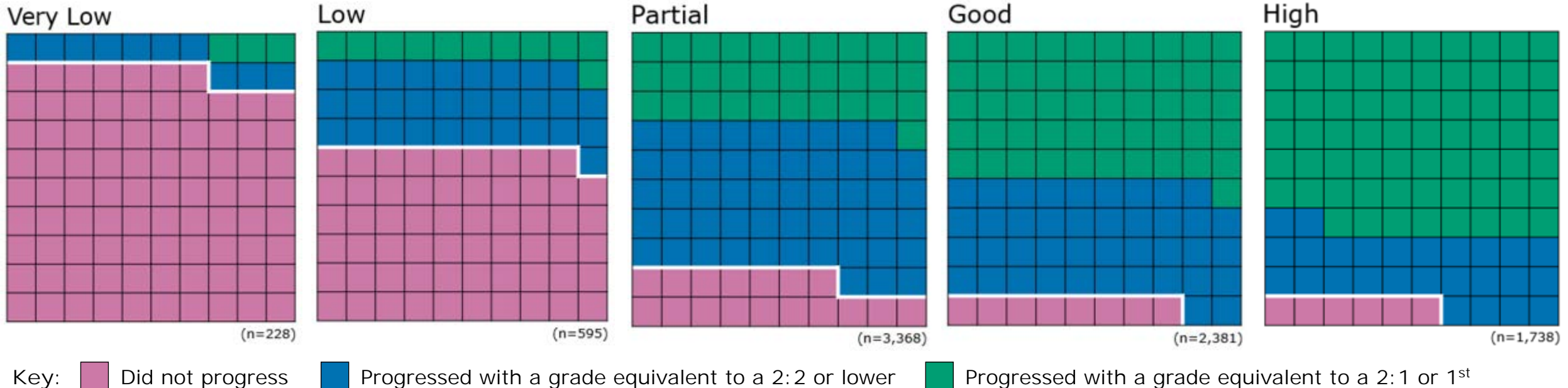
No-engagement alerts and success

- Analysis is based on if student generated a no-engagement alert or not

- Generating an alert is associated with lower progression and attainment (not shown)
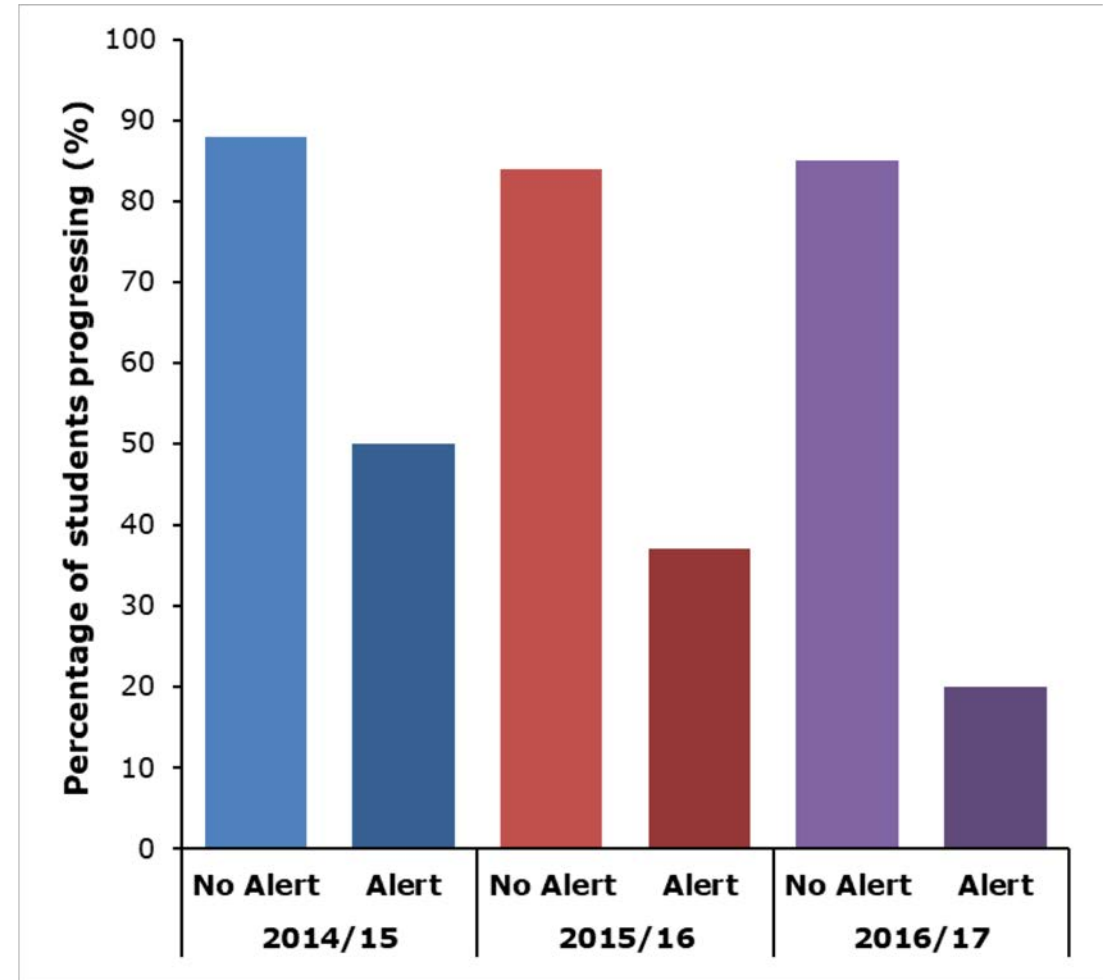
No-engagement alerts and success

- Analysis is based on the number of no-engagement alerts a student generated

- Generating multiple alerts is associated with increasingly lower progression
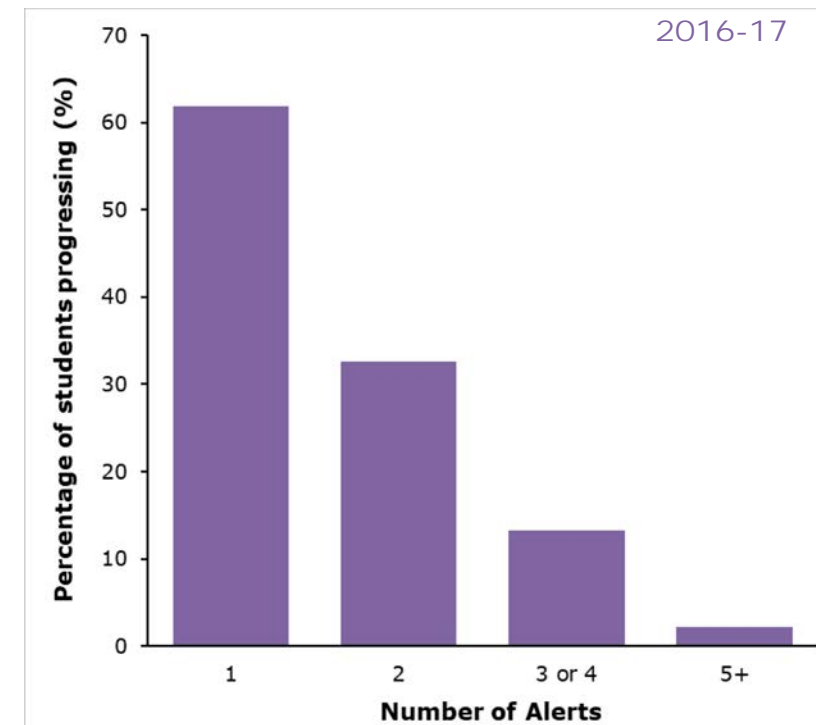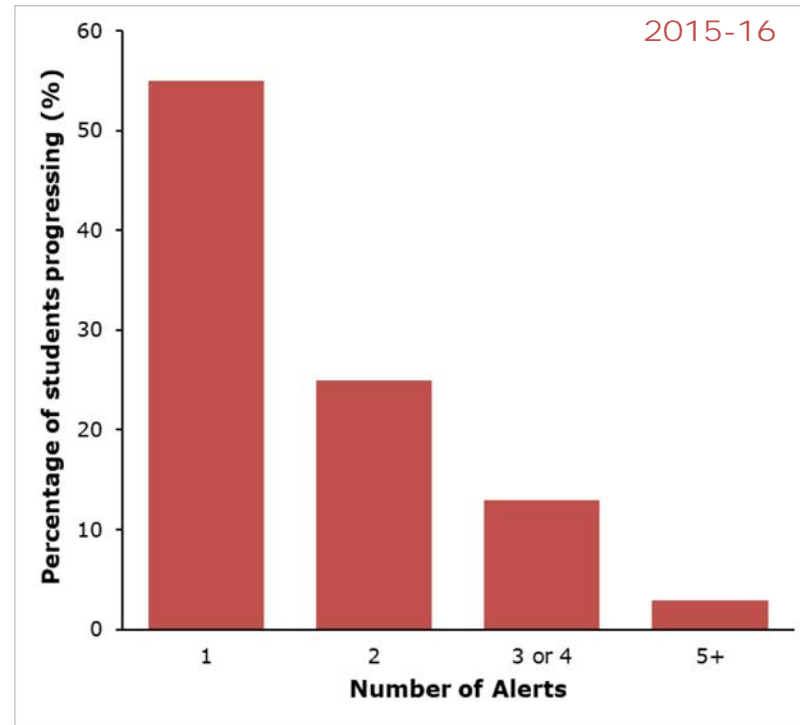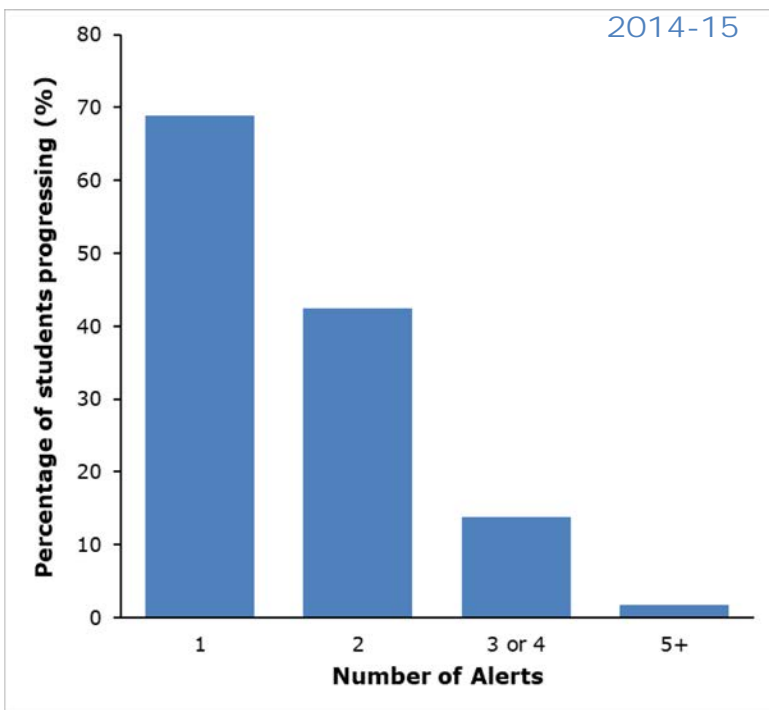
Relationship between Dashboard use and success

Dashboard log-ins and success

- Analysis is based on the number of times a student logged in to the Dashboard

- Higher log-ins is associated with higher progression

Proportion of students progressing to second year by number of Dashboard log-ins (1st year, FT UGs in 2016-17)

Percentage of students progressing

- 0: 18.6%
- 1: 43.3%
- 2-3: 58.5%
- 4-6: 71.3%
- 7-9: 76.6%
- 10-19: 83.6%
- 20+: 90.1%

Number of Dashboard Log-ins
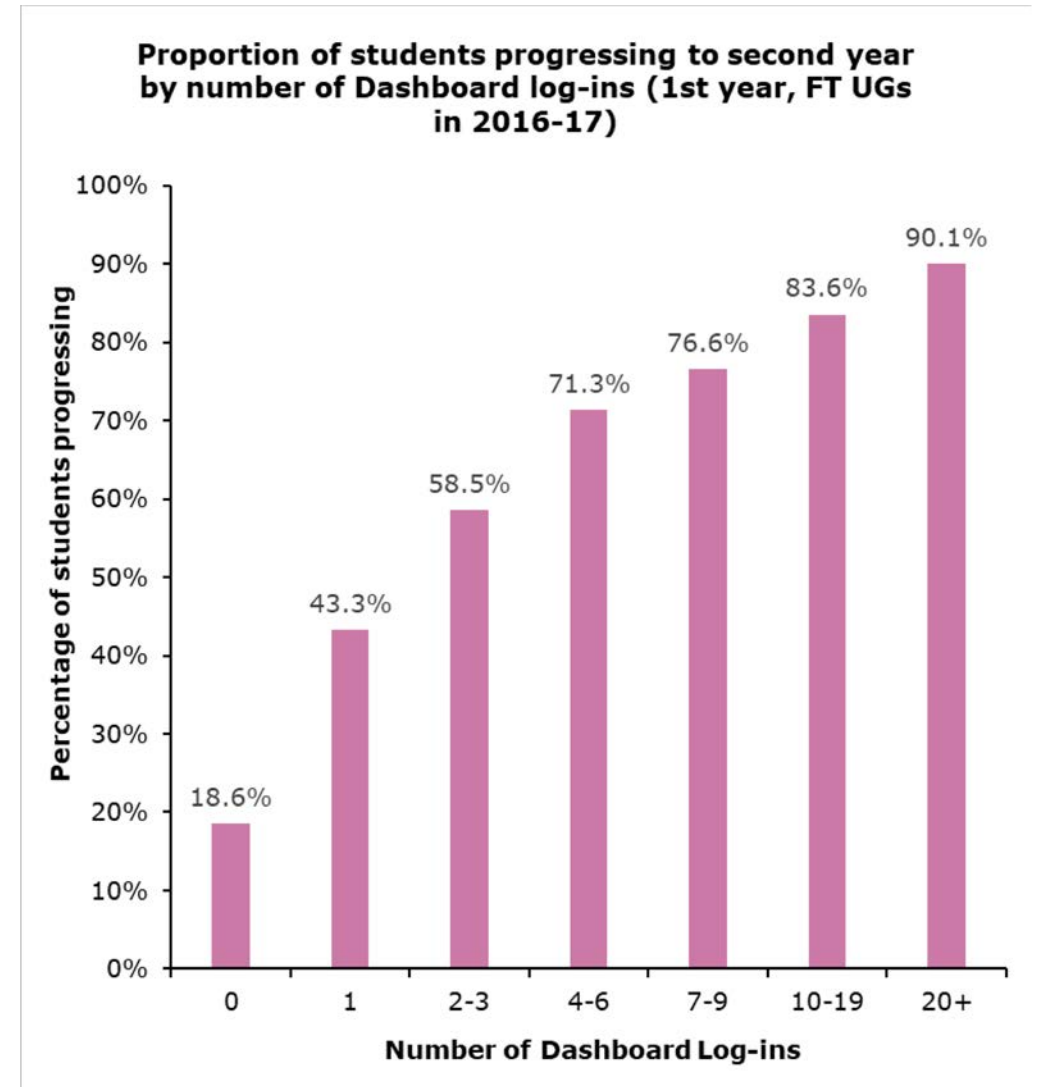
Dashboard log-ins and success

- Analysis is based on the number of times a student logged in to the Dashboard

- Higher log-ins is associated with higher attainment

Proportion of progressing students who achieved grades equivalent to a 2:1 or first by number of Dashboard log-ins (1st year, FT UGs in 2016-17)

Number of Dashboard Log-ins	Percentage
0	22.5%
1	31.3%
2-3	37.6%
4-6	43.1%
7-9	50.3%
10-19	54.6%
20+	57.8%
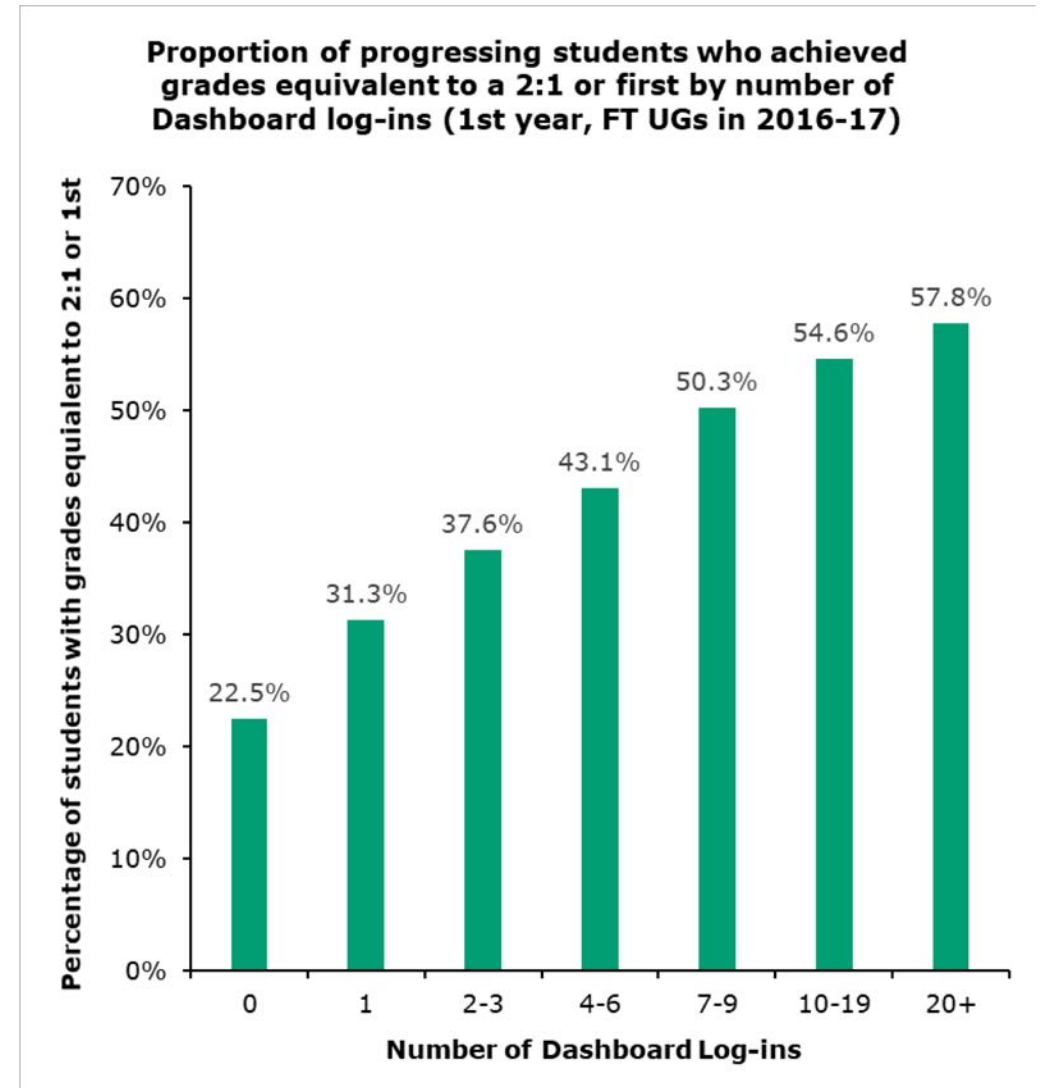
Case study of using engagement data to measure impact

Attending library meetings

- The library team offers guidance covering all aspects of academic skills

- Students can book 30 minute one-to-one sessions with team members between

  9 am and 5 pm using an online booking system

- In 2015-16, the eight team members inputted notes into the NTU Student

  Dashboard during/shortly after one-to-one sessions with 815 students

Attending library meetings and success

- Daily engagement data allows two types of analysis:

  1. Change in engagement over timeframe

  2. Rate of change in engagement over timeframe

Time

| 14 days before | 7 days before | Date of intervention | 7 days after | 14 days after |

- After the meeting a higher proportion of students were more engaged than their peers than before the meeting

See ABLE Project Output 8 Case Study 2 at http://www.ableproject.eu/project-outputs/

Attending library meetings and success

- The progression rate for students who visited the library team was **8.6%** higher than for those who didn't

- Importantly, students were more engaged than their peers before they attended the meeting, as well as after

Engagement for students who met the library team compared with their course average engagement one week before the meeting
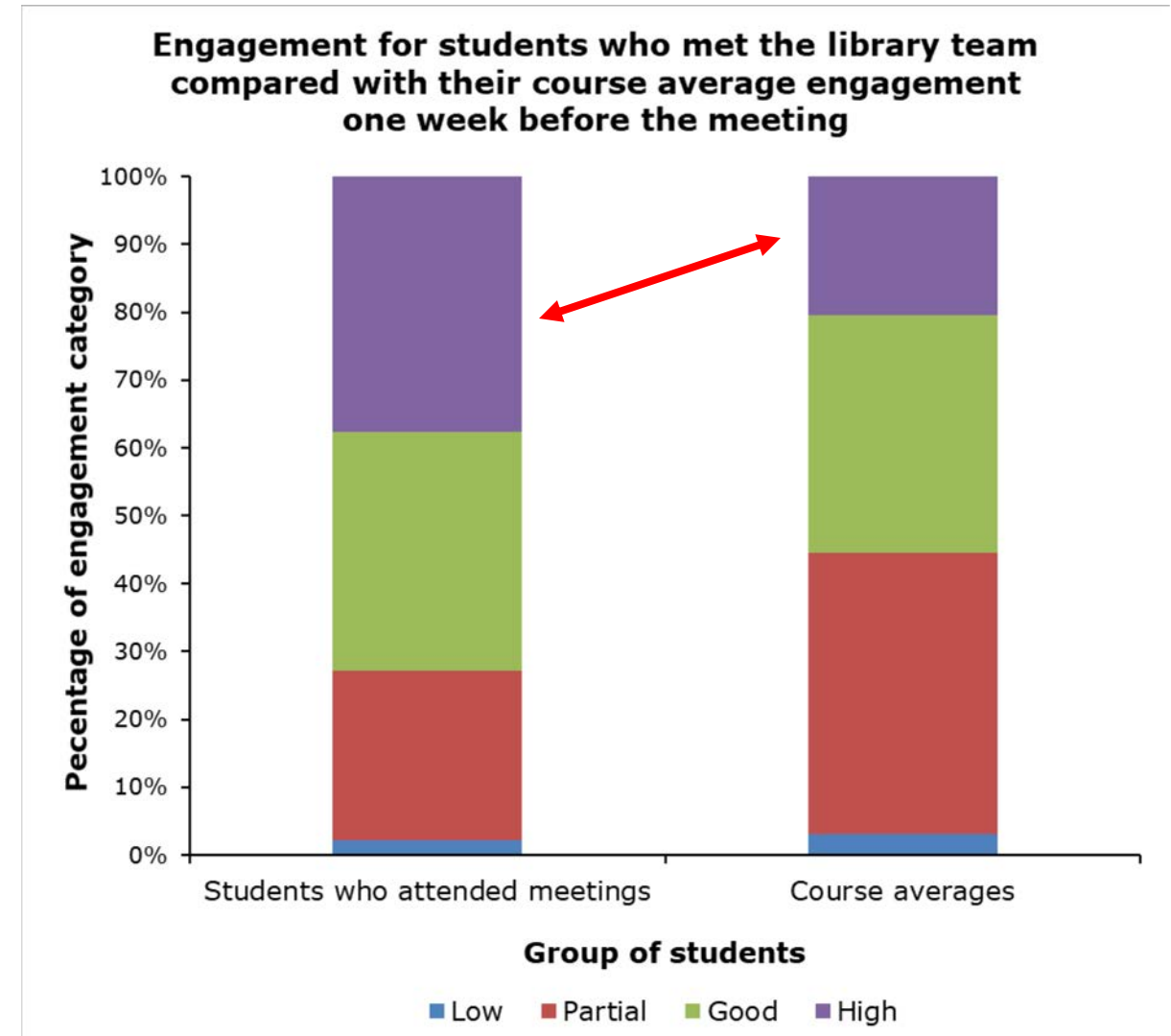
Case study of hosting an activity within the Dashboard

Induction activity

Stages of activity:

Pre-arrival
Complete the questions in own time prior to arriving on campus

↓

Initial induction
Discuss questions in groups as part of timetabled induction activity

↓

First Year
Used in tutorial conversations
Reference point for tutors
Self-reflection point for students

Questions

1. What are you most looking forward to about becoming an NTU student?

2. What are you most looking forward to about starting your course?

3. How much do you think learning at University is going to be different to your previous studies?

4. Do you have any concerns about starting University?
   - If so, what are they?
   - Based on how you normally overcome difficulties, how do you plan to deal with these concerns?

5. What have you most enjoyed about your previous studies?

6. There are many opportunities to make the most of your time at University. What would you like to achieve by the end of the year?

Induction activity and success

- Analysis is based on if the student completed the induction activity

- Completing the activity is associated with higher progression and attainment – early warning

"65 % of students who completed the induction activity progressed with grades equivalent to a 2:1 or 1st compared with 45 % of students progressing with these grades who didn't complete the activity."

Student Progression (split by whether or not students participated in the induction activity)
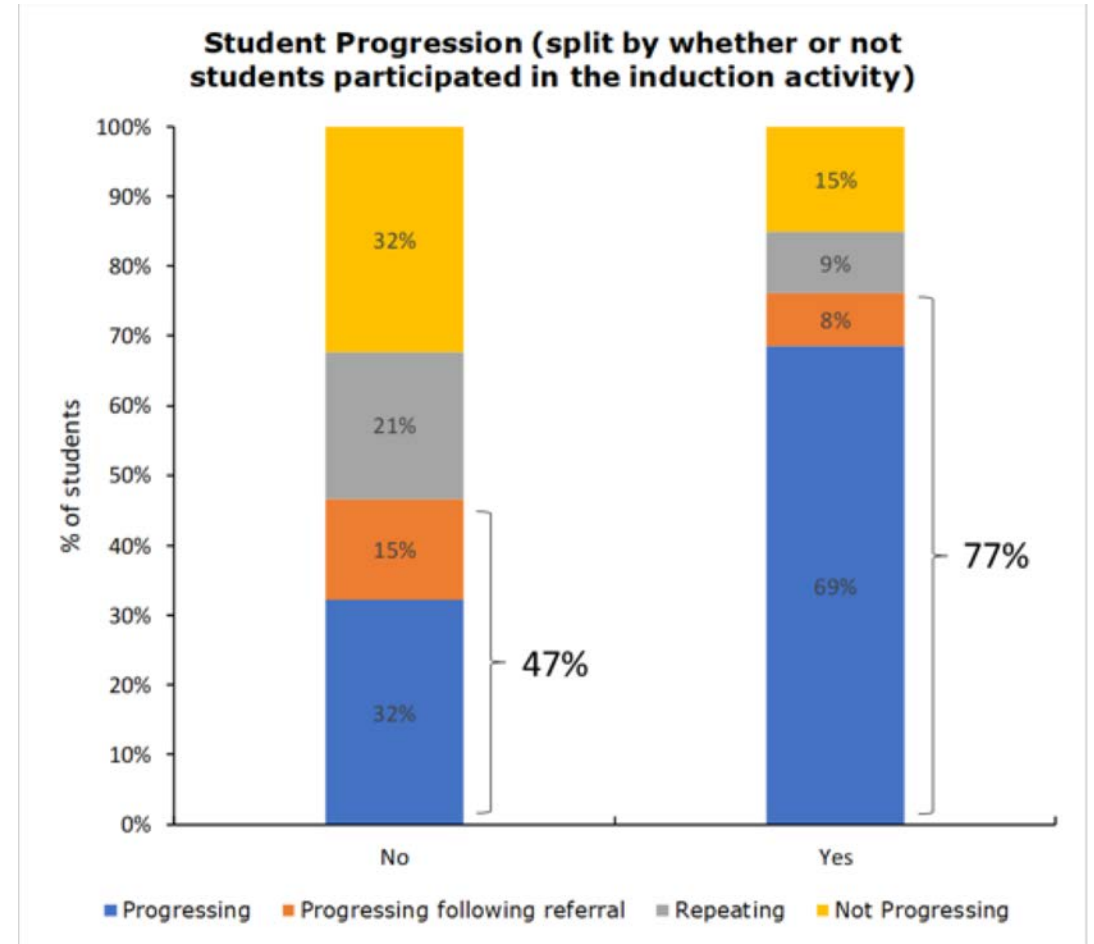
Impact of the Dashboard on student behaviour

Students as change agents

When using the Dashboard, how often have you explored the following?

	Very Often	Often	Sometimes	Never
Checked your attendance	49%	34%	16%	1%
Changed your behaviour to raise or maintain your engagement score (for example made sure that you swiped to go into a building)	17%	28%	29%	26%
Increased the amount of time you spend studying	13%	28%	33%	26%
Spoke to your tutor	5%	9%	22%	63%
Spoke to someone providing specialist help (for example student support services/ library) as a result of looking at information on the Dashboard	5%	8%	18%	70%

■ Very Often ■ Often ■ Sometimes ■ Never

2017 survey base: 753

See ABLE Project Output 4 Part 4 at http://www.ableproject.eu/project-outputs/ and STELA case study zero at https://stela-project.org/outputs/casestudies/engagement-ntu/

Staff as change agents

- Systems/services based on voluntary access/use may benefit students with the 'cultural capital' to use them not those most in need of support, as seen in case studies

- Using staff as change agents can help support those most in need, for example by using the Dashboard in timetabled tutorials

- Research as part of previous Erasmus+ funded projects (ABLE and STELA), and focus of latest project (OfLA)

See ABLE Project Output 4 Part 4 at http://www.ableproject.eu/project-outputs/ and STELA case study zero at https://stela-project.org/wp-content/uploads/2019/01/caseStudy0_tex.pdf

Conclusions

Conclusions

- There is an association between engagement and student outcomes

- There is an association between use of the Dashboard and outcomes

- Students demonstrating certain behaviours were more likely to succeed

- Some students self-report behavioural changes as a result of seeing their Dashboard, but we posit that staff intervention is required to ensure all students are supported

See ABLE Outputs 17 and 20 for recommendations:
http://www.ableproject.eu/project-outputs/

See STELA recommendations:
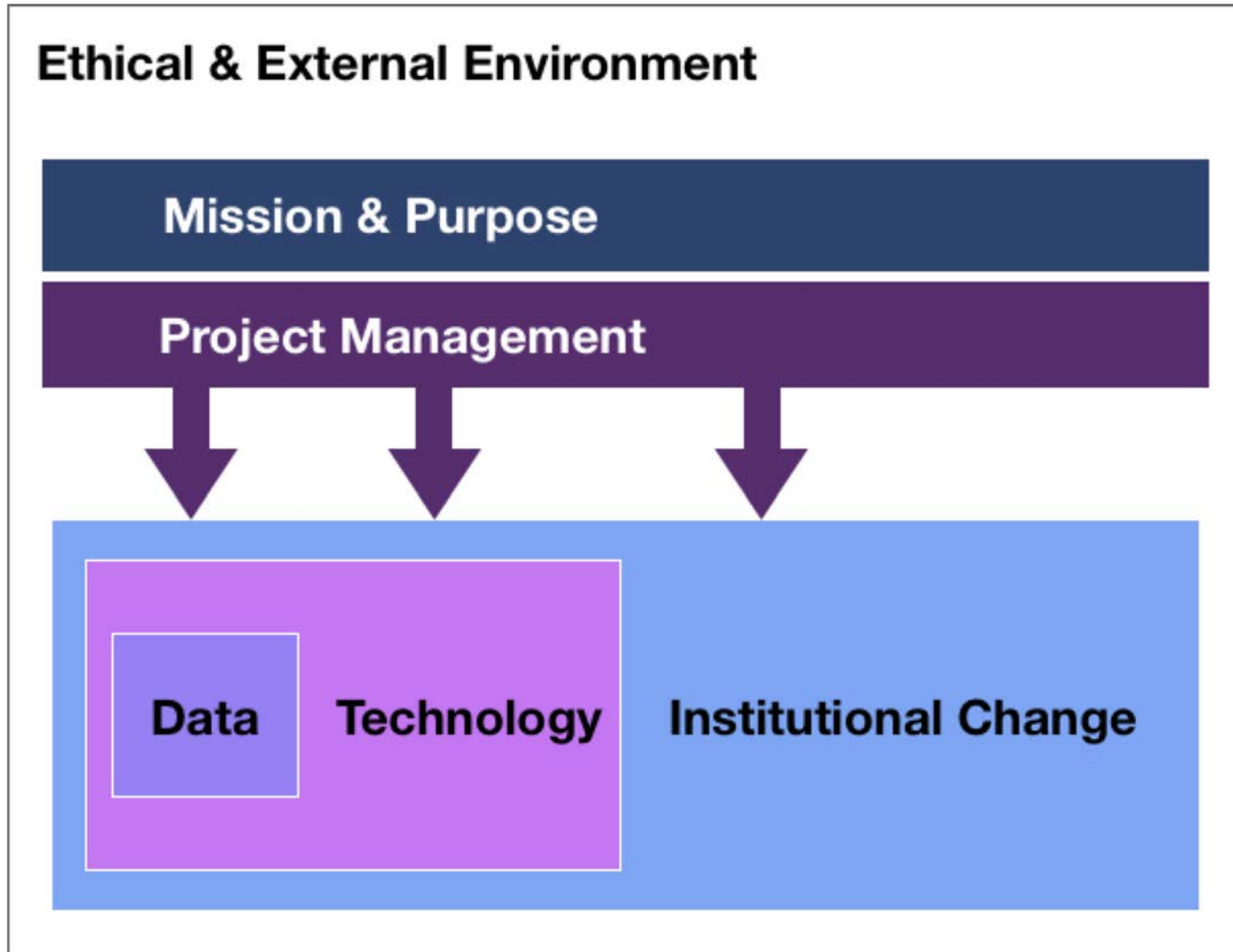https://stela-project.org/outputs/recommendations/

Challenges & Next Steps Workshop
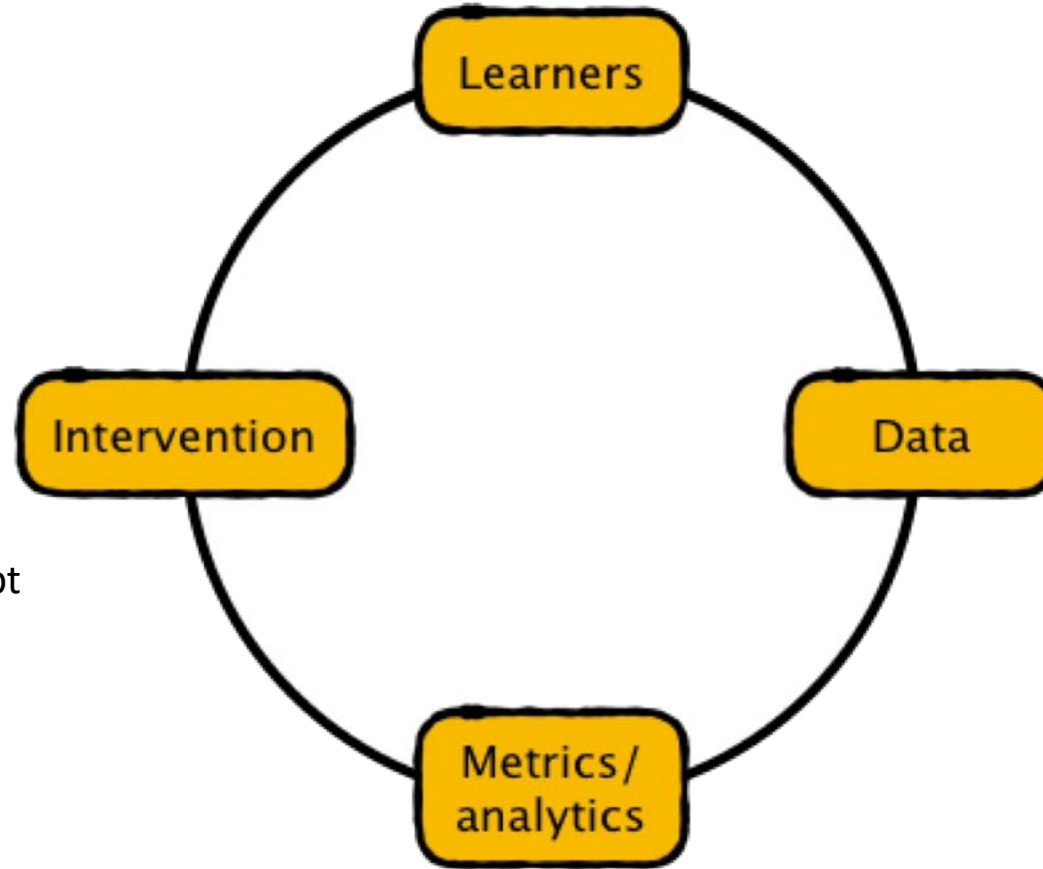
Ed Foster, Student Engagement Manager

Challenges & next steps

What's needed for the whole process to be useful for students?
e.g. clarity about students' roles
- Are they still responsible for their own learning?

What's needed for the intervention to be effective?
Sufficiently skilled and confident staff
- Capable of meaningful dialogue, or provided with a pro-forma script

What's needed for the data to be useful?
E.g. decision-making that doesn't corrupt source data
- e.g. inconsistently applied changes to course names in institutional systems

What's needed for the Metrics/ analytics to be effective?
Consideration of the spread of risk across a cohort
- e.g. 'Red, Amber, Green' or 1-10 scale

Learners

Intervention

Data

Metrics/ analytics

Applying NTU's experience to your institution

Personal Reflection 5 mins thinking/ writing	►	Discussing with SURF peers/ NTU staff, students and colleagues from Solutionpath Pair up/ work in small groups 15 minutes	►	Plenary discussion Your last chance to quiz NTU staff, students and colleagues from Solutionpath 15 minutes

Discussion topics

Outcomes – What do you want to be different as a consequence of using LA?

Outputs – What does any LA system need to show in order to be useful?

Processes – What changes do you need to make to staff roles, processes, legal processes etc.?

Inputs – Right now, where is your raw data? What do you need to do to make is useful?

What's needed for the whole process to be useful for students?
– Clear timely communication to students
– Clarity about role and use of data – are students still in charge of their own learning?
– Ethical consideration of the use of learning analytics – is it part of a fitness to study mechanism, or support only?
– Clarity about the role of tutors or other staff making interventions
– Student role in developing learning analytics and associated systems

What's needed for the data to be useful?
– Student record systems – 'live/near live'
– Students mapped into the relevant organisational structures
– interactions captured live (probably including attendance)
– Changes to student records maintained, particularly changes to enrolment status
– Decision-making that doesn't corrupt source data (e.g. inconsistently applied changes to course names in institutional systems)
– Consistent upstream data sources transferring feeding data in a reliable manner

www.LivingLearningAnalytics.blog

Learners

Intervention

Data

Metrics/ analytics
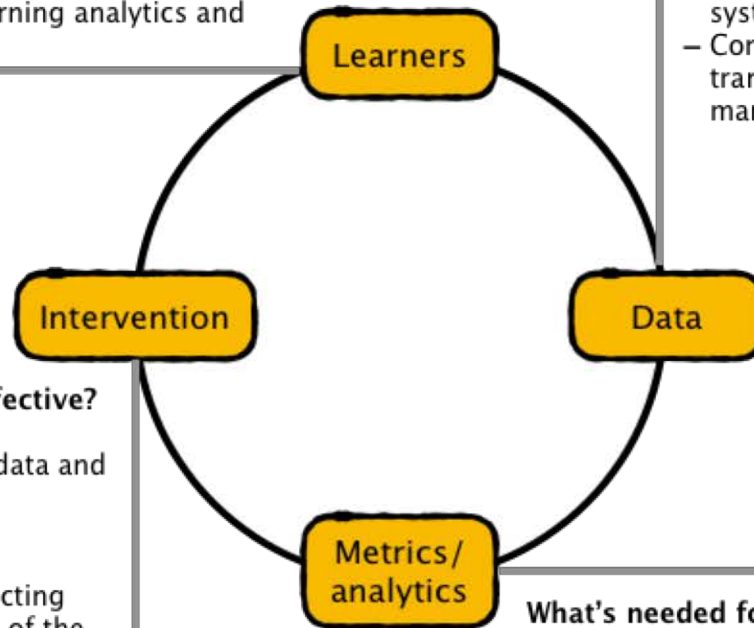
What's needed for the intervention to be effective?

– Understanding of the relationship between data and Comprehensible early warnings through a dashboard or other early warning system (automated report, emailed alert, etc.)
– Agreed policy & sense of ownership about acting
– Agreed strategy dependant upon the nature of the early warning (e.g. missed classes probably requires a different approach compared to a failed assessment)
– Time and means to communicate to students
– Sufficiently skilled and confident staff to engage students in meaningful dialogue, or some form of pro-forma script
– Space and time for any interventions (real or virtual) to take place
– System for goal-setting or making referrals to learning developers, student support services etc.

What's needed for the metrics/ analytics to be effective?

– Understanding of the relationship between data and whatever the goal is e.g. student progression
– Consideration of the spread of risk across a cohort e.g. 'Red, Amber, Green' or 1–10 scale
– Potentially multiple algorithms depending on the nature of different types of teaching
– Ethics of using particular types of data points, particularly demographic data

Foster, E., (2019) (most definitely drawing from Clow, D., (2012))