

Creating Positive Impacts On Student Engagement

Implementing targeted support interventions in the transition to fully online teaching and learning

Case Study



Background

- Pioneers in the use of Learning Analytics (since 2013)
- Collaborator in the development of StREAM
- Engagement data represents students 'educationally purposeful activity' using their digital footprint
- Data is framed in the positive and used to drive student success

EXECUTIVE SUMMARY

Nottingham Trent University (NTU) is among one of the most highly regarded higher education institutions in its application of learning analytics in the United Kingdom. In 2013, NTU first initiated a pilot to test the feasibility of using learning analytics to support student success. This initiative later expanded into an institution-wide rollout of the **NTU Student Dashboard**, developed by **Kortext**.

Since its launch, the use of learning analytics at NTU has facilitated dialogue between students, their personal tutors and support staff leading to positive impacts on student engagement.

In 2020, with the outbreak of Coronavirus (COVID-19) and the transition to fully online teaching and learning, NTU was forced to re-think their learning analytics model to use information based on online engagement. Furthermore, before the pandemic most support intervention had been carried out by personal tutors using the dashboard, however, in Summer 2020, the team set up a virtual call centre to contact students with very low to low engagement to help those that were worst affected by the crisis.

CONCEPTUALISING LEARNING ANALYTICS

At the beginning of their journey into Learning Analytics, NTU developed a framework based on the *Learning Analytics Cycle* developed in 2012 by Doug Clow, Open University. This cycle conceptualised learning analytics as four interlinked steps: learners generating data (class participation, card swipes, assignment submissions, library usage, and VLE access) that could be used to produce metrics, analytics, or visualisations. The final part of this cycle was 'closing the loop' which involved working with students, if they had issues, or required additional help, through one or more interventions.

In these early days, the cycle enabled NTU to consider how they could approach learning analytics from a retention perspective using student activity data and metrics to overlay timely triggers, communication, and interventions.



"I'm very conscious that when we start to look at where institutions need to put time and effort in, it's at that intervention stage and spotting students early. The real challenge remains, how do we get to a place where we can successfully make an intervention in a timely manner?"

Ed Foster
Head of Student Engagement
& Analytics



THE FOCUS OF LEARNING ANALYTICS

NTU has established guiding principles in its approach to its learning analytics practice. Firstly, their focus is based on engagement which by definition means “students participating in educationally purposeful activities”. Secondly, the practice is framed in the positive, so the definition of ‘high’ equates to highly engaged, rather than highly at risk. Thirdly, they measure the ‘do’ and not the ‘who’, which means that socio-demographic data isn’t used in their analytics model, only data relating to student engagement with their course. As Ed Foster says, “We don’t need to add in additional filters for who students are and very importantly, from our perspective, we make the resource available for both students and for staff.”

USING STREAM TO SUPPORT STUDENTS AT RISK

Through their partnership with Kortext, NTU developed the NTU Student Dashboard using StREAM technology. Within the dashboard, five colour coded dots which are generated from the learning analytics model indicate student’s engagement levels. These are coded: ‘HGPLV’ which identifies high, good, partial, low, and very low engagement and serves as an invaluable way to predict when a student is at risk.

Evidence from the NTU Student Dashboard shows that the higher the average engagement, the more likely a student is to progress from the first year and the more likely they are to achieve higher grades. Conversely, lower average engagement is associated with lower progression. In 2017 - 2018 they found,

13%

of first year students with ‘very low’ average engagement for the year progressed

40%

of first year students with ‘low’ average engagement for the year progressed

2:1+

the higher the average engagement is, the higher the chances are to progress with a grade equivalent to a 2:1 or a First-Class honours degree.

This insight has helped prioritise efforts towards students with lower engagement and prompted NTU to nudge up the behaviour of good ‘G’ and maintain high-level ‘H’ engagement. The student dashboard enables student engagement to be viewed over custom time periods, daily engagement scores, cohort averages and average attendance over the last 14 days. Tutors can very quickly drill down to see detailed activity data to help tutors investigate reasons for students low engagement.

KEY BENEFITS

- Enables students to self-regulate their own learning by seeing their engagement data and comparing this to their peers.
- Helps staff to gain insights and information about students and initiate referrals to professional services.
- Facilitates institutional level interventions and usable data for research purposes.
- Creates an organisational culture towards a more data driven approach across the University.

TRIGGER, COMMUNICATION, AND INTERVENTION

NTU have also worked closely with two partners Artevelde University College (Belgium) and UMC Utrecht (Netherlands) as part of the Onwards from Learning Analytics (OfLA) Erasmus+ project. The project identified 3 stages required for a successful intervention including trigger, communication, and intervention. In each of these stages they found potential that this system could fail and lose students because:

- An alert wasn't triggered at the right time, or maybe wasn't effective or accurate enough.
- Communicating to students is not straightforward and students get blinded by emails.
- Students react differently to different communication styles, tones, and tactics.
- Students may not necessarily be the best judge of their own engagement if they're struggling to cope with the studies.

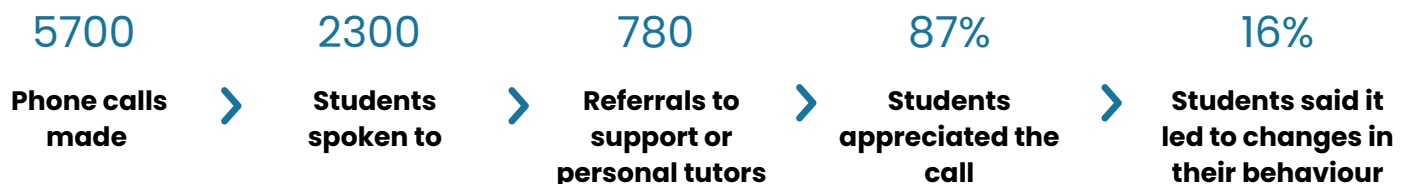
TARGETED SUPPORT INTERVENTIONS DURING COVID

In the UK, higher education teaching locked down on Monday, 23rd March 2020, and NTU was forced to make swift shifts to accommodate fully online teaching and learning prior to the start of the 2020 academic year. As educators scrambled with the implications of a COVID-19 academic year, Kortext was instrumental in helping NTU plan for an online student population anticipating that during the year students would be studying wholly online.

The StREAM algorithm was adapted to capture online activity such as attendance, VLE logins, logins to the learning rooms, logins to the shibboleth resource, and online submissions enabling them to identify students most at risk and support them during this unprecedented time.

SUMMER 2020 CALLING CAMPAIGN

As a consequence, NTU set up a call campaign for those students with very low or low engagement for the last two weeks of the Spring term, during a period where there were a lot of assessments that need to be handed in. They also ran this call team for the first four weeks of the Summer term with 30 volunteers, with the following outcomes;



"Even if we can successfully communicate to them, we get to this point of 'what happens now?' I think that when people use this word 'intervention', they completely miss the subtlety, the word masks an absolute vast quantity of issues around what is it that needs to happen."

Ed Foster

Head of Student Engagement & Analytics



"From the crisis that we were facing - we knew all students would be affected. What we didn't know was which students were going to be worst affected. We knew digital poverty could be an issue and that students might struggle with access to their course content. It may have been as simple as having access to a computer or even having a quiet workspace. We also knew that not all students will seek help"

Ed Foster

Head of Student Engagement & Analytics



"Despite everything happening in the world, I wasn't forgotten about or abandoned by Uni."

Student

NTU

FEEDBACK AND SUPPORT FOR PERSONAL TUTORS

Feedback from the Summer campaign indicated two areas of consideration. They found that students called were from disproportionately disadvantaged backgrounds, meaning they tended to be in the 'very low' or 'low' categories. Where alerts were sent to personal tutors, it was also found that they didn't always have the time to do the intervention or even log it. Indicating a need for more proactive outreach and more support for personal tutors to achieve this.

After the Summer Calling Campaign, a pilot was conducted in the Autumn term but this time, alerts were sent to a calling team of volunteers who rang students who triggered the "no engagement" alerts – which was 10 days of no activity for first years, 14 days for all other students. During this pilot a further **2,700 alerts** were raised, and the volunteers **spoke to 1800 students** or left a voicemail.



"It was really helpful to know that there was a safety net supporting you to help students engage and who are not responding to you. It also made you feel like it wasn't all down to you and took off some pressure."

Personal Tutor

NTU

WHAT'S NEXT FOR NTU?

Students returned in Autumn 2020 to further disruption. The University therefore continued the call campaign approach. Once again, feedback suggested that students were positive about the calls. As online learning evolves throughout the pandemic, NTU plans to continue with the call centre interventions and conduct further A/B trials to see if there is a difference between, another intervention and the call centre intervention itself. **Ed Foster concludes,**



"We know that the interventions we've done from the call centre are well-liked by students, and tutors, on the whole, value the call centre team taking the first steps." Preliminary findings also suggest that calls are more effective than emails at changing behaviour, however, further work is needed to research areas such as duration of alerts, follow up calls, chatbots, coaching calls."

FIND OUT MORE:

- Watch Ed's Session at the StREAM Community Conference 2021: ['Completing The Learning Analytics Cycle: The Coronavirus Calling Campaign'](#)
- Read Ed's Blog: www.LivingLearningAnalytics.blog
- OfLA project website: www.OfLAproject.eu



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