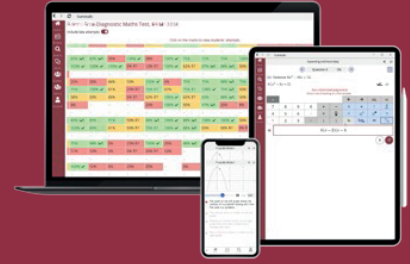


Supporting students' transition to university

Bristol University Case Study



The School of Economics at Bristol University engaged Summatic to create assessments and learning resources for incoming students. This comprised of an initial diagnostic to assess the strengths and weaknesses of the incoming cohort of 840 students, a digital textbook of relevant mathematical resources, and practice exam questions.



*Our collaboration with the Summatic team **allowed our incoming students to smoothly transition to their undergraduate studies** compared to previous years and we are, therefore, very keen to continue our collaboration.*



Dr. Zylberberg, and Dr. Chondrogianni, Maths for Economics lecturers

MATHS REQUIREMENTS FOR INCOMING STUDENTS

The School of Economics at Bristol University typically takes in 500-600 new students per year, with a requirement of an A grade in A Level mathematics. There is still a large step up from school to university, since students need to apply mathematical methods in new settings and need a greater intuitive understanding compared to school studies where learning is more procedural.

In addition, the school faces additional challenges due to COVID-19:

- Teaching disruptions caused a loss of 1 to 3 months of learning, correlated with existing disparities, and possibly larger in maths!
- Grade inflation from teacher-predicted grades resulted in a much larger than usual cohort of 840 students, with uncertainty about how many had the required level of quantitative skills.

We expect to be dealing with the consequent catch-up challenge of lost learning time for several years, and it will also take at least 2 years for grade inflation to be wound back according to government estimates.

BRIDGING THE GAP WITH DIGITAL ASSESSMENTS AND RESOURCES

The School of Economics had previously tried several resources to support incoming students, but had difficulty finding solutions that were both engaging and useful at the right academic level.



Existing resources (e.g. books) are not tailored to this crucial period (first year undergraduate courses) and are not really flexible. Alternative platforms we previously trialled were not user friendly, resulting in students not engaging. They do not offer an interactive learning experience. More importantly, the gap between A-level and university material was not bridged because the available test banks tend to offer many versions of the same basic applications and not offer difficulty built-up to the desirable level.



Dr. Zylberberg and Dr. Chondrogianni



Economics



840
Students supported



76,165
Questions attempted



≥99.9%
Marking accuracy



5 weeks
from proposal to launch

The School of Economics worked with Summatic to provide a diagnostic assessment for incoming students, designed to help students practice and fill any learning gaps prior to starting their course. This assessment was designed to test three areas: algebra, calculus, and statistics. It was targeted at the A/B borderline which was the usual expectation of incoming students.

On the Summatic platform, students also had access to a digital textbook of material from A-Level Maths relevant to their university degree, and additional practice questions before exams.

RESULTS

Engagement

83% of students engaged with the test², which the school impressively high compared to previous resources used. They made a total of **76,165 attempts** at questions.



Many students spent hours engaging with the test. We even had requests to re-attempt the test during reading week.



Dr. Zylberberg and Dr.Chondrogianni

Marking accuracy

Summatic guarantees students reliable marking, giving a book voucher plus quick fix to anyone encountering a marking error. The platform performed with **≥99.9% accuracy³**.

Students analytics

The school staff received a report detailing:

- **Which students might need extra work** or additional support as they would have struggled to meet the regular entrance threshold.
- **Areas of strength and weakness**, by topic area (algebra, calculus, statistics).
- **Detailed results breakdowns**. The school will be able to correlate diagnostic scores with end-of-year results.

Summatic continues to support economics students at Bristol with diagnostics, revision materials, and regular in-course assessments.



Summatic's assessment platform focuses on



Providing a **wide range of question** types common at university level.



Usability to allow students to enter **answers in familiar formats**.



Reliable automated assessment of student answers and steps of working.



An **efficient learning loop**, giving students immediate access to relevant resources and new variants.

¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/962330/Learning_Loss_Report_1A_-_FINAL.pdf

² This data includes the 656 students who were enrolled at the start of the year; 184 additional students enrolling later had the chance to do the diagnostic later in term but are not included in these results.

³ This is estimated based on 1. detecting errors via user feedback and automated consistency checks being able to detect any marking error with estimated 93% chance, 2. Initial marking 98.7% free of detectable errors, and 3. all detectable errors fixed within 2 days, giving a final estimated reliability of 99.9%.

