



UNIVERSITY OF
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Measuring educational gain: University of Cambridge case study

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A. Evidence and policy background

The University of Cambridge derives its understanding of educational gain from a combination of its research-intensive nature and associated translation of research into teaching in relevant disciplines, a focus on a personalised learning experience characterized by small group teaching, and a background in educational research with and about educational and learning gain in higher education.

Together with the wider evidence (Arico et al., 2018; Kandiko Howson, 2018), the Cambridge-driven research suggests that educational gain is multidimensional and subject-specific, sitting alongside discipline-specific knowledge and skills (Vermunt, Ilie & Vignoles, 2018).

The University is in the process of developing a skills framework that enables students to self-assess and be guided towards new and existing opportunities to develop subject-adjacent educational gain. To guide that, the University is also taking a research-driven approach, continuing to build on original learning gain research by starting with student voice to first understand how current student perspectives, potentially influenced by recent events including the pandemic, have shaped their understanding, prioritisation, and own assessment around educational gain.

To that end, the University is embarking on a collaborative, multi-threaded research project, which builds on substantial expertise in participatory research with students that then feeds into institutional policy making. This project also draws together several efforts around aspects of equity at Cambridge, joining together University departments and individuals working across central offices towards Access and Participation plans, Teaching Excellence Framework-relevant initiatives, course leadership teams, academic departments, and researchers with topic expertise around higher education learning and educational gain. The project is outlined in full below.

B. Aims and research questions

This research project aims to understand student perspectives on educational gain, to extend existing research looking to characterise and categorise educational gain, answer questions around the relationship between students' views of educational gain and their respective educational outcomes, and inform future local policy initiatives around the

development of a skills framework enabling all Cambridge students to explore, improve, and articulate, a set of relevant knowledge, abilities, and skills under the educational gains umbrella. The project will aim to answer a set of specific research questions:

- a. How do Cambridge students in a specific set of disciplines define educational gain? The project will explore here how perspectives have shifted compared to previous insights from existing research.
- b. How do perceptions of educational gain change from Year 12 -13 School age students through to students in their final year of undergraduate education at Cambridge? This question will be addressed by building on an existing large-scale outreach project whose aims align with both educational gains-relevant work on this project and wider access work at Cambridge.
- c. How do perceptions of educational gain differ according to students' individual and educational backgrounds (including in terms of their prior schooling, gender and ethnicity). This will be disaggregated by the stage of students' educational careers.
- d. How do systematically-collected perceptions of educational gain map onto hard educational outcomes (including exam results and degree outcomes, where relevant)? The project will also explore the range of outcomes available for younger students, to explore the same relationships prior to enrolment at Cambridge.
- e. To what extent do staff with course leadership and teaching duties see aspects of 'educational gain' finding a home in the learning outcomes defined for each subject?

Expanding the focus once the above questions have been answered, the project will, in a separate stage, explore educational gain from the perspective of postgraduate students and staff working on postgraduate programmes.

C. Focus and internal stakeholders

The project team will be comprised of diverse group of leaders, from a range of different parts of the University. The project will focus on the School of the Physical Sciences and will include all three of its undergraduate degree courses (Natural Sciences, Mathematics & Geography), even when these are delivered jointly with other Schools. Key collaborators will include the Cambridge Centre for Teaching and Learning, bringing substantial expertise in projects around awarding gaps, participatory methods, and harnessing considerable convening power; and Student Services, specifically the Cambridge Admissions Office, to provide data insight and links to APP-relevant work. Academics in the Faculty of Education will provide topic-relevant support. Ethical endorsement for the project will be sought and the project embedded into wider research exploring issues of access to, participation in, and outcomes and progression from, undergraduate education at Cambridge.

D. Approach

The main aim of this project is to hear the authentic student voice, in terms of defining what educational gain is to them, in a way that allows these perspectives to feed into subsequent skills work undertaken by the University. This will be achieved through a mixed-method research approach, capturing views from undergraduate students by digital open-ended means and more traditional survey questions, as well as focus group interviews. This will allow for tailoring of the data collection approach to the different student ages and stages in the study, as well as their academic discipline and university department/institution to which they belong. Building on prior research, all initial engagement with students about educational gains will be open-ended, allowing their perspectives to emerge without any prompting by the project team. This will include exploring the prioritisation of different aspects of educational gain and reflections on how students may see these mapping onto any degree learning outcomes with which they are familiar, to sit alongside data-intensive

quantitative analyses mapping such perspectives against educational outcomes including exam results.

For Year 12 & 13 students, the approach above will be adapted, to ensure age suitability and minimize the response burden, embedding data collection within wider activities associated with their engagement with the existing outreach provision.

To complement perspectives from students, staff will be engaged in similar focus group discussions, exploring their own understandings of educational gains, and how these understandings map onto the course and degree specific learning outcomes that they are teaching to or in the process of developing.

E. Analytical approach

Open-ended responses and data generated by both student and staff focus groups will be analysed thematically using inductive approaches, allowing key themes to emerge naturally and aligning the analytical approach to the broader aims of the study. Answers to closed-ended survey questions, including any emerging from the use of previously validated scales capturing aspects of learning gain, adapted for the purposes of this educational gains research project and for use with younger people (in Year 12 and 13), will be analysed using established statistical approaches. These will be applied to any educational outcomes data when exploring associations between different student perspectives expressed systematically and at scale through survey questions and their respective exam (and similar) results.

F. Intended outcomes

The project will provide insight into students' own views of educational gain, including how these may differ by academic subject, student characteristics, and prior educational experiences and trajectories. This will inform policy initiatives around educational gain, including the development of the skills framework, ensuring it reflects closely the views and priorities of current undergraduate students but also of those potentially looking to study at Cambridge in the future, improving its usability and ultimately providing students with further relevant opportunities to benefit from an excellent education.

This case study is an output from a Collaborative Enhancement Project supported and funded by QAA Membership. The project is led by Imperial College London in partnership with Bath Spa University; Imperial College Union; Liverpool John Moores University; London School of Economics and Political Science (LSE); The Open University; University of Birmingham; University of Cambridge; University of East Anglia; University of Exeter; University of Manchester; University of Plymouth; University of Warwick; and University of Portsmouth. Find out more about Collaborative Enhancement Projects on the [QAA website](#).