

Executive summary:

Online teaching and learning in the time of COVID-19

March 2023

Introduction

The COVID-19 pandemic prompted a rapid transition to online teaching and learning in higher education (HE). This disruption led to concern that the pandemic may further widen the gap in student outcomes that exists between disadvantaged students and their peers.

To investigate this issue, TASO launched a project to explore the evidence that was generated prior to, or during, the pandemic on the effect of online teaching and learning on student outcomes. We were particularly interested in the effect on disadvantaged students who may face greater challenges accessing and using online content due to factors like digital poverty or a lack of suitable study space at home. Given the ongoing move to online provision, it's important to establish the potential impact of this change on disadvantaged students.

Our project was formed of two parts: a rapid evidence review and a piece of data analysis. From these components we sought to understand what we could learn from the data collected. We were interested not just in the impact of changes to teaching and learning, but also in how this impact had been measured, and any lessons we could learn about how to evaluate the ongoing shift to online provision in the HE sector.

Rapid evidence review

The [rapid evidence review](#) covers findings from 18 relevant studies, seven of these focus on the pre-pandemic context, including two meta-reviews, and the remaining 11 papers focus on studies conducted since the pandemic. The studies used a variety of methods, including some 'causal' impact evaluation methods which provide the strongest type of evidence on the impact of different approaches.¹ We find large gaps in the evidence, and all of the studies were conducted outside the UK, mostly in the US, meaning that the results may not reflect the experience of HE students in the UK and highlighting the need for further research in the UK widening participation context.

The existing evidence is somewhat mixed; there are a small number of studies which suggest online teaching and learning can maintain or improve outcomes for some groups, but overall the move to online learning appears associated with worse student outcomes. Blended learning (e.g., a combination of face-to-face and online learning) appears to improve attainment when compared to purely online learning.

The existing evidence also suggests that course design is key to effective online provision. Building student-student interactions into an online course, such as discussion boards between peers, allows for increased engagement which is often positively associated with attainment.

¹ The Office for Students' categorise evidence into three types: Type 1 Narrative; Type 2 Empirical Inquiry; Type 3 Causal <https://www.officeforstudents.org.uk/>

There is some evidence that, prior to applying any type of 'no detriment' control in an attempt to account for the impact of the pandemic on students' performance, learners from low-income backgrounds and academically at-risk students may be most likely to be negatively impacted by the shift online. However, this is not universally the case in the studies we reviewed.

Data analysis

The aim of our [data analysis](#) was to use existing historical data from a single university to investigate the relationships between measures of disadvantage, changes to teaching and assessment, and student outcomes (attainment and progression).

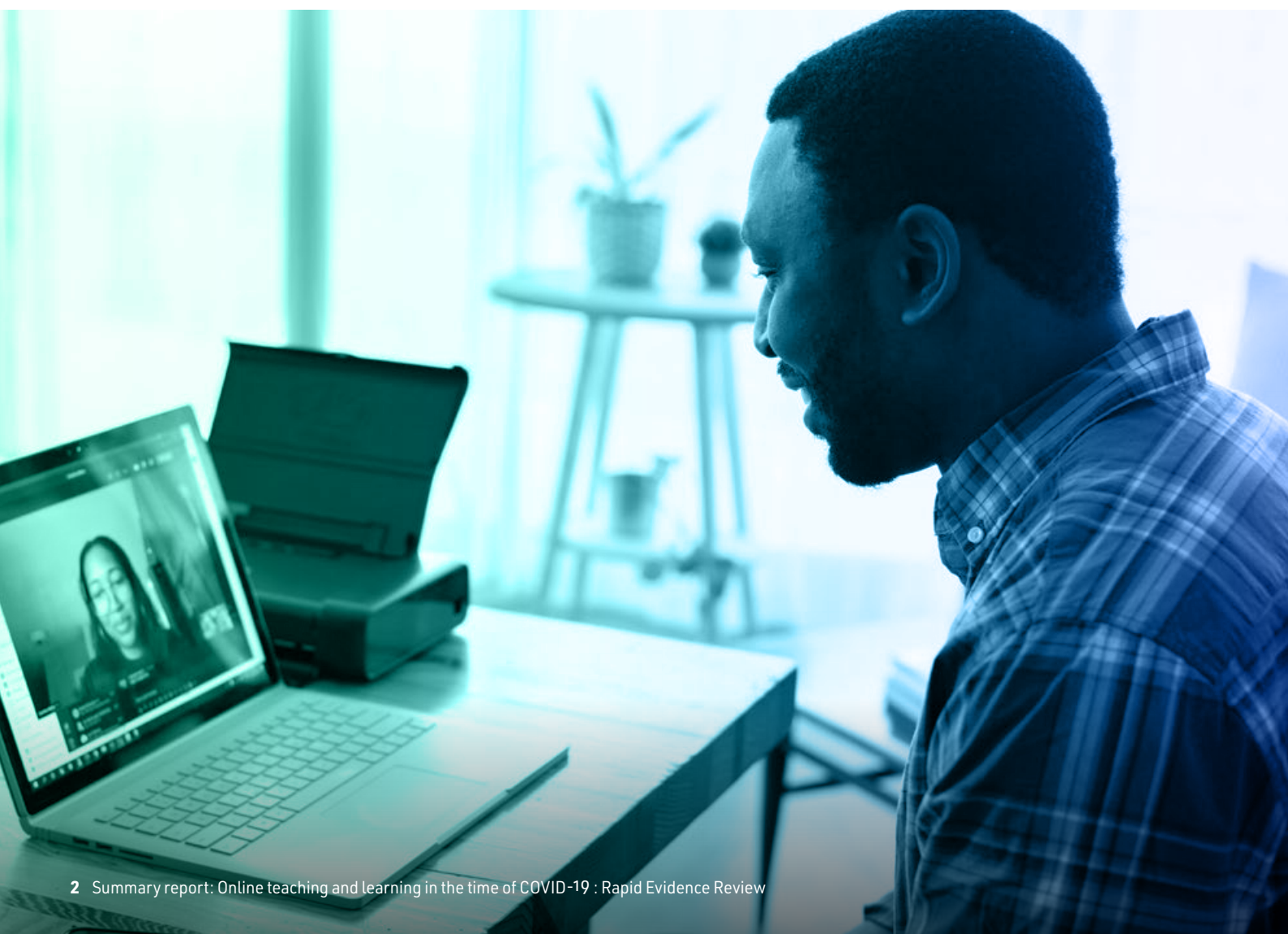
We use anonymised data which captured student outcome data for the years 2018-19, 2019-20 and 2020-21. Our sample contained over 1,000 students from three courses for three levels of study (first, second and third year).

Overall, students from disadvantaged backgrounds had lower attainment and lower rates of progression than students from other backgrounds. We find some evidence that the gap in attainment between disadvantaged and other students was similar when teaching and learning was disrupted in 2019-20,

perhaps due to 'no-detriment' policies which were enacted to ensure that students were not materially disadvantaged by the lockdown.

However, we do find some tentative evidence of a widening of this gap in the subsequent year. The move to wholly online teaching/assessment in 2020-21 is consistent with reduced attainment and lower rates of progression compared with normal teaching/assessment, and the reduction in attainment for disadvantaged students was roughly twice that for their non-disadvantaged peers. However, this finding is somewhat sensitive to how we define disadvantaged students, and we are constrained by missing data, so the strength of this finding should not be overstated. Additionally, we only draw on data from a modest sample of students at a single university, so this limitation must be acknowledged.

Unfortunately, there is not sufficient data to determine whether any widening attainment gap is due to the move to online teaching/assessment or due to COVID-19 itself. Because the pandemic led to rapid and widespread changes, it is impossible to untangle the effect of a module being taught online, from the effect of it being taught in the context of the pandemic, using the available data.



Conclusions

The COVID-19 pandemic has accelerated the adoption of online teaching and learning in HE. As no-detriment policies are removed, it is important that the sector monitors the possible impact on disadvantaged and underrepresented groups.

Our review of the existing evidence highlights that a move to online provision may be associated with poorer outcomes in some cases, and clearly indicates that any transition to online teaching and learning must be a considered process. Course design is key to ensure that content is translated appropriately into online contexts, and HE providers must ensure that all groups have the means to engage with this content effectively.

The results of our analysis highlight the importance and feasibility of HE providers assessing their institutional data to identify whether and how disadvantaged and under-represented groups might be affected by online provision. We find some tentative evidence of a widening disadvantage attainment gap associated with a move to online provision, but it is impossible to attribute this to the effect of modules being delivered online versus the effect of the pandemic. HEPs should build on this analysis to conduct a similar evaluation of their online/blended options in their local contexts as we move into an increasingly digitised future for HE.

Recommendations

1. The design of online courses is important:
A concerted effort should be made to design online courses rather than simply moving face-to-face materials into the online environment. Effective design features include:
 - a. Coordinated student-to-student interaction via discussion boards and chat rooms.
 - b. Feedback between teaching staff and students.
 - c. Appropriate frequency and timing of online teaching and assessment to avoid student fatigue.
2. HEPs should make use of their institutional data and differing pedagogical approaches to design and conduct evaluations that allow us to draw strong conclusions about what works in the UK context. Our data analysis provides a foundation and blueprint for future work of this sort.
3. As students from disadvantaged backgrounds may be more likely to be adversely impacted by the shift to online teaching, learning and assessment, future research should focus on their experiences and outcomes.

TASO

Transforming Access
and Student Outcomes
in Higher Education

Evidence Quarter
Floor 4, Albany House
94-96 Petty France
London SW1H 9EA

info@taso.org.uk
taso.org.uk

TASO is an independent charity that aims to improve lives through evidence-based practice in higher education (HE). We support HE professionals through research, toolkits and evaluation guidance on what works best to eliminate equality gaps. We inform practitioners of the best available evidence and produce new evidence on the most effective approaches. TASO is an affiliate 'What Works' centre and is part of the UK Government's What Works Movement.