

Does online delivery impact programme engagement and outcomes as part of a Widening Participation intervention?

Lauren Bellaera, The Brilliant Club

Lottie Norton, The Brilliant Club

Hannah Thomson, The Brilliant Club

Email: lauren.bellaera@thebrilliantclub.org

Abstract This study examines whether programme engagement and outcomes differ based on the mode of delivery (in person versus online) for a UK-based Widening Participation (WP) programme during the Covid-19 pandemic. In total, 2507 school students attended academic in-person tutorials, and 2505 attended academic tutorials online. The findings show that tutorial attendance did not significantly differ based on the mode of delivery. We also see similar programme outcomes for both in-person and online programmes. However, the completion of the 'baseline assignment', which was the first piece of work undertaken by students on the programme, was negatively impacted by the online setting (i.e., lower submission rates). This suggests that further considerations are needed to engage students with activities that happen early in the online programme. As part of the study, we also collected feedback from programme staff about their reflections of running a WP programme virtually. Based on these insights, we make suggestions for how WP can best utilise digital forms of delivery in the future.

Key words Widening Participation, online learning, engagement, programme outcomes, Covid-19 pandemic

Introduction

The Covid-19 pandemic has affected education in many ways (Pokhrel and Chhetri, 2021). One of the biggest challenges has been the digitalisation of teaching. The adaptation to digital delivery has meant that educators have had to develop materials and instructions that can be used with students in online settings (Adedoyin and Soykan, 2020).

A number of studies have examined whether students' learning needs can be fully met with teaching that takes place online, with some findings suggesting that whilst autonomy is met through online learning, cultivating a sense of relatedness is not (Wong, 2020). There is also evidence of 'learning loss' for students from disadvantaged backgrounds because of the mode of delivery (Engzell et al., 2021). For example, during January 2021 in the United Kingdom (UK), 21% of teachers working in the most deprived state schools reported that 1 in 5 students did not have adequate access to the internet; this 1 in 5 statistic was only reported by 3% of teachers in the most affluent state schools and just 1% at private schools (The Sutton Trust, 2021). Similar trends have also been reported internationally (e.g., Eruchalu et al., 2021).

Given the effects of the pandemic, engagement with Widening Participation (WP) programmes is needed, now more than ever. However, like classroom teaching, WP has not escaped the shift to digital delivery and, as a result, we need to understand how WP interventions are operating within this new space. This is particularly pertinent because digitalisation will remain a fundamental tool for closing attainment gaps and university progression gaps as students continue to be supported through a mixture of in-person, blended and online modes of delivery (e.g., National Tutoring Programme, Oak National Academy).

There is a range of WP programmes and activities available for students in the UK. These initiatives are primarily led by WP departments at universities, independent charities and third-sector organisations. In some instances, organisations and higher education institutions work collaboratively together to deliver and evaluate WP programmes.

One example of an organisation that works in partnership with universities is The Brilliant Club, a UK-wide access charity that mobilises the PhD community to support less advantaged students to access the most competitive universities and succeed when they get there. The Brilliant Club runs the largest access programme in the UK, The Scholars Programme, and data from UCAS shows that participating in this programme significantly increases progression to competitive universities (The Brilliant Club, 2022).

In this paper, we use The Brilliant Club's Scholars Programme to further understand the impact of digital delivery on WP. Specifically, as part of this study, we examined students' programme engagement and outcomes as a function of in-person versus online delivery. We also explored the process of delivering

a WP programme online by collecting qualitative feedback from team members. Overall, the study addresses the following two research questions:

- 1) Do programme engagement and outcomes differ for students depending on the mode of delivery (in person versus online)?
- 2) What are programme staff members' perceptions of delivering WP online and what lessons can we learn from these experiences?

Methodology

The intervention

The Scholars Programme helps students develop the knowledge, skills and confidence to progress to the most competitive universities in the UK. The charity trains PhD researchers to deliver The Scholars Programme and to share their subject knowledge and passion for learning with small groups of students aged 8–18. Examples of courses taught include: 'Invasion, Integration and Identity – Britain in the Eleventh and Twelfth Centuries', 'Macbeth then and now: Shakespeare's "Scottish Play" goes global' and 'Don't Go Breaking My Heart: Regenerating your Heart with Stem Cells'.

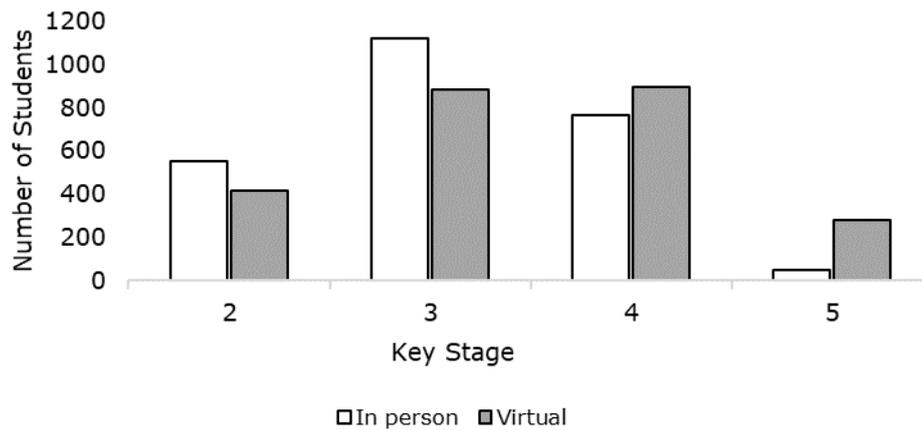
As part of the programme, students complete an academic assignment at the beginning (baseline assignment) and end (final assignment) of the programme in the form of an extended essay, which is marked by PhD researchers using a university-style mark scheme. Marks are awarded for subject knowledge, written communication and critical thinking based on a continuous scale (0–100), and these marks are then averaged to produce an overall mark which forms students' baseline and final assignment marks. In March 2020, The Brilliant Club moved the programme online due to school closures, and since schools have opened again the charity has continued to offer a blended approach allowing schools to select their preferred mode of delivery.

Impact evaluation methodology

In order to understand how the delivery mode impacted programme engagement and outcomes, we focused on students who participated in the programme during the Summer 2021 term. This is because we delivered an even split of in-person and online

placements, with 2507 students receiving in-person tuition and 2505 participating digitally. It should be noted that the digital delivery was synchronous for all students. Figure 1 (below) shows the breakdown of in-person versus virtual delivery by Key Stage.

Figure 1: Number of Students by Mode of Delivery and Key Stage



In total, we identified three outcomes of interest to assess programme engagement: tutorial attendance (%), baseline submissions (%) and final assignment submissions (%). From our internal data, we know that tutorial attendance and baseline submission are important indicators of whether a student will go on to successfully complete the programme and so are good proxies for engagement. For programme outcomes, we looked at performance on the baseline assignment marks and final assignment marks (marked out of 100).

Logistic and linear regression models were used to investigate the relationship between in-person versus digital delivery for the outcomes of interest. We report significant differences for p-values less than or equal to 0.05. We controlled for other factors that may be associated with engagement and outcomes including Key Stage, eligibility for Pupil Premium, gender and school region. Pupil Premium refers to funding to improve education outcomes for disadvantaged students in the UK. The funding is allocated to schools and local authorities on a yearly basis, based on pupil eligibility. To be eligible for Pupil Premium, students must be eligible for free school meals, or have been eligible in the last six years, have been adopted from care or have left care, or be looked after by the local authority (Department for Education, 2022). Eligibility for free school meals and the Pupil Premium are often used as an 'indicator' of individual pupil disadvantage.

Process evaluation methodology

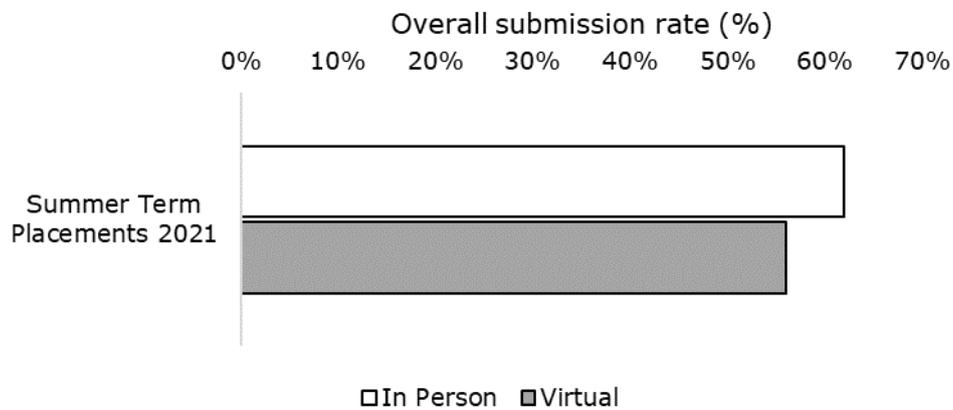
In addition to the impact evaluation, we asked staff members about their experiences of implementing the programme in an online setting. A one-hour virtual focus group was conducted with three staff members at The Brilliant Club. One researcher from the charity was present to ask questions and guide the discussion. The content of the focus group centred on challenges faced during the transition to digital delivery and factors that made this transition easier. In terms of analysis, a thematic analysis was conducted of the resulting data using NVivo software to draw out the main themes addressed by the participants (Braun and Clarke, 2012).

Findings

Programme engagement and outcomes: in-person versus online delivery

In terms of programme engagement, the results showed no significant difference between the two modes of delivery and tutorial attendance rates. This is encouraging because it suggests that the mode of delivery does not reduce students' likelihood to attend the programme. However, there was a significant difference for baseline assignment submission rates even when controlling for other factors, with virtual tutorials being associated with a lower likelihood of submitting than in-person tutorials ($p < 0.001$). Figure 2 (below) shows the average baseline submission rates for in-person and virtual tutorials, which were 62% and 56% respectively. This indicates that the on-boarding process for online delivery, especially supporting the submission of initial pieces of work, could be further developed.

Figure 2: Average Baseline Assignment Submission Rate



For final assignment submission rates, we also found no significant difference between the two modes of delivery if we controlled for whether a student had submitted their baseline assignment. However, interestingly, if we removed baseline assignment submission from the model, a negative association between final submission and digital delivery became significant. On average, the final assignment submission rates were 79% for in person and 73% for virtual. This shows that the baseline assignment submission may be moderating participation later in the programme. This again points towards the importance of students engaging with work early in the programme and the need for this to be scaffolded to support this transition, especially in online settings.

In terms of programme outcomes, the results showed no significant difference for baseline assignment marks, with an average mark of 53 for both in-person and online programmes. This suggests that the delivery mode had a negligible effect on the marks students achieved in their first piece of assessed work on the programme. For the final assignment marks, students who participated virtually scored slightly lower on the final assignment (by 1.48 marks), and whilst statistically significant at the 0.05 level, the size of the difference is very small and from a programme perspective falls within our expected range.

A limitation of this analysis is that the regression models were only able to consider some of the factors associated with student outcomes and we therefore must be cautious not to overstate these results. In addition, the data stems from one WP intervention focused on university-style learning and, to build up a wider understanding of the interaction between online delivery and WP, more research is needed across a range of programmes.

Staff perceptions of delivering WP in an online setting

We spoke to three staff members overseeing the delivery of The Scholars Programme in schools, which provided valuable insights into the challenges that came from transitioning to digital delivery. The participants' feedback can be broadly divided into two themes:

- 1) Challenges faced internally by the organisation when coordinating the programme.
- 2) Challenges faced by the tutors when delivering the programme.

The biggest internal challenge during the shift to digital delivery was the uncertainty of how to run the programme in an online setting. Staff who were responsible for coordinating tutors, schools and students to take part in tutorials found that they spent a lot of time resolving technology issues and rescheduling tutorials. This necessitated staff taking on additional administrative work, which could vary a lot depending on what schools they worked with. Two things helped to overcome these challenges: working together to solve problems, and staff and schools becoming more familiar with the new mode of delivery over time. These challenges are most likely symbolic of the way in which digital delivery came about during a pandemic and are perhaps unlikely to be replicated outside of this context. Nonetheless, the feedback attests to the fact that digital transformation, even with its logistical challenges, can occur quickly when there is a need for it.

A challenge from a tutor perspective was ensuring that tutors understood the pedagogical adaptations required for successful online delivery. For example, the Teaching and Learning team at The Brilliant Club provided training and guidance to tutors on teaching in an online setting, including preparing for technological issues during tutorial preparation, setting clear expectations for engagement at the beginning of each tutorial, increasing the amount of knowledge checks, and how best to make use of digital resources. Going forward, we know that using technology to support learning will continue to be an area of interest for WP as programmes are offered in person, blended and online.

Conclusion

The present study explored whether a WP intervention delivered online affected programme engagement and outcomes for students compared to the same programme delivered in person. These initial findings reveal some interesting patterns suggesting that the

delivery of WP through online spaces is not detrimental to programme engagement or outcomes. However, ensuring that students completed their 'baseline assignment' was more challenging in an online setting, and this also interacted with later engagement with the programme (i.e., final assignment submission). This suggests that, when WP is delivered virtually, additional mechanisms should be put in place to ensure that students engage with activities and assignments early on and feel supported to do so. Finally, the staff delivering the programme revealed that it is important to ensure that levels of planning, explaining and checking for understanding are adapted so that students continue to benefit from digital delivery. Overall, the findings and insights from this study give assurance that the mode of delivery does not reduce the impact of a WP programme, at least not for programmatic outcomes, but it does point to the need for careful considerations when it comes to student engagement. Given the breadth of programmes available in the UK, and the continued interest in blended and online delivery, it will be important to examine whether similar results are obtained for other WP interventions.

References

- Adedoyin, O. B. and Soykan, E. (2020) 'Covid-19 pandemic and online learning: the challenges and opportunities', *Interactive Learning Environments*.
- Braun, V. and Clarke, V. (2012) 'Thematic analysis' in H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf and K. J. Sher (eds.), *APA Handbook of Research Methods in Psychology, Vol. 2. Research Designs: Quantitative, Qualitative, Neuropsychological, and Biological*, Washington DC: American Psychological Association (pp. 57–71).
- Department for Education (2022) 'Pupil premium: overview'. [Online]. Available at <https://www.gov.uk/government/publications/pupil-premium/pupil-premium> (accessed: 22 June 2022).
- Engzell, P., Frey, A. and Verhagen, M. (2020) 'Learning Inequality During the Covid-19 Pandemic', paper presented at the *2nd Joint IZA & Jacobs Center Workshop: Consequences of Covid-19 for Child and Youth Development* [online], 19 October.
- Eruchalu, C.N. et al. (2021) 'The Expanding Digital Divide: Digital Health Access Inequities during the COVID-19 Pandemic in New York City', *Journal of Urban Health*, 98: 183–186.
- Pokhrel S., Chhetri R. (2021) 'A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning', *Higher Education for the Future*, 8, 1:133-141.
- The Brilliant Club (2022) 'The Scholars Programme – Independent Impact Evaluation Update 2021/22'. [Online]. Available at <https://thebrilliantclub.org/evaluation/programmes-evaluation/> (accessed: 12 June 2022).
- The Sutton Trust (2021) 'Remote Learning: The digital divide', 11 January. [Online]. Available <https://www.suttontrust.com/our-research/remote-learning-the-digital-divide/> (accessed: 29 September 2021).
- Wong, R. (2020) 'When no one can go to school: does online learning meet students' basic learning needs?', *Interactive Learning Environments*.