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RESEARCH

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Staff and student experiences of hybrid teaching in a pandemic-impacted context

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Abstract

This paper presents the findings of qualitative and quantitative research of staff and students' experience of hybrid teaching at the University of Bristol during the 2020/2021 academic year. Hybrid teaching was added as an additional mode of teaching and learning as a response to circumstances caused by the Covid-19 pandemic. The research analyses data collected from student focus groups, and staff and student questionnaires. The benefits and drawbacks of hybrid teaching are presented in relation to trends in the higher education sector. The paper demonstrates the value of multi-method approaches to data collection to test the validity of institutional use of hybrid teaching with reference to the literature. The research contributes to a gap in empirical evidence and suggests practical and theoretical parameters for considering the use of hybrid.

Keywords: Hybrid teaching, Qualitative, Quantitative, Covid-19, Research, Higher education

Introduction

Hybrid teaching, understood broadly as teaching in which the learners can choose to engage in the same course either in-person or remotely, is adopted by institutions under various conditions. This may be done proactively, as part of integrated learning design and practice that match the needs of the cohort and institutional technological capabilities; and reactively, the less preferred route of adoption under exceptional circumstances, such as due to the global pandemic caused by the Covid-19 virus. A few months after the pandemic disrupted education across the globe, Cohen et al. (2020) interrogated what defined hybrid learning from this moment forward. The pandemic signified a dramatic shift in teaching practice that was quite different from more familiar blended learning concepts, as "hybridity is a more complex phenomenon" (Cohen et al., 2020, p. 1039). At the crux of



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this complexity is the blurring of conceptual and spatial demarcations for working and learning. The challenges to learning design are rightly noted, given the need to adapt teaching design to different and shifting modes of delivery.

At the dawn of the pandemic, hybrid pedagogy was, of course, known and published on. Case studies, resources and guidance for Higher Education (HE) pre-Spring 2020 typically explore hybrid teaching that is conducted purposefully from learning design to implementation and through evaluation. This paper considers hybrid implementation in a different context, an emergency pivot determined by the circumstances of the Covid-19 pandemic. In this circumstance, best practice from the literature may not be fully implemented due to reactive response requirements and short timescales for implementation. This sentiment is echoed by the former Chair of Jisc Professor David Maguire (2022) who states that “Many universities are still finding their way to their post-COVID-19 equilibrium and the preferred balance of online, in-person and hybrid teaching and learning”. Hybrid was implemented due to necessity during the pandemic; whether it becomes a prominent feature of HE practice in the long term remains unclear.

It is important that educational institutions take stock of non-ideal scenarios, reflecting on the impacts of decisions made so as to inform future decision-making. Such evaluation processes should also demonstrate a commitment to listening to the staff and students who are affected by rapid and holistic changes to their work and study experiences. It is in this spirit that the following paper outlines the University of Bristol adoption of hybrid teaching and subsequent qualitative and quantitative evaluation.

At the University of Bristol, hybrid is used to denote live sessions where students are taught in-class and online at the same time, in the same session, and by the same teacher. Often, additional members of staff are present to support the online aspect of learning provision. Recognising the pedagogical and technical challenges of implementing it successfully, hybrid teaching was initially discouraged at the University, but interest grew during 2020-21 as it was carried out, sometimes very successfully, by individual innovative lecturers, using a range of technological and pedagogical approaches. In the run up to academic year 2021-22, with international travel severely restricted, hybrid provision was introduced as an option to support those cohorts with a high proportion of international students.

The decision by schools and faculties to make use of hybrid approaches was largely driven by considerations of efficiency, cohort cohesion (in-person and remote students as part of the same learning experience), and change resilience (students were able to transition from remote to in-person when they were able to travel). Where provided, the flexibility of hybrid learning was also utilised by students who were unable to attend campus, typically due to illness.

During the pandemic, support for hybrid teaching was provided through academic and professional services teams, including online resources and training sessions. Informal “drop-in” sessions dedicated to hybrid teaching were offered by Digital Education Office (DEO), alongside guidance pages covering the most commonly known issues encountered (e.g., teaching approaches for large and small cohorts, room preparation, streaming options, hybrid teaching preparation checklist) (DEO, 2022).

Given the emergency nature of this teaching method, short planning phase, and limited technical provision, it was determined that a review of hybrid implementation should be undertaken. This research articulates the findings of that review, drawing on quantitative and qualitative data provided by staff and students. The research was undertaken by a team within the University’s Bristol Institute for Learning and Teaching (BILT), including one student Research Assistant, one academic member of staff acting as Lead Researcher, and one member of the DEO with a breadth of technical expertise. The core aims of the research sought to:

1. Identify technical requirements for hybrid teaching;
2. Provide guidance for future procurement of software and hardware in support of hybrid delivery;
3. Ascertain the future needs for hybrid delivery;
4. Provide a sector review of institutional support and policy for comparable institutions;
5. Understand staff and student experiences of hybrid;
6. Understand staff and student expectations for hybrid provision in the future.

Regarding the first through third points in this list, this paper makes cursory mention, as the requirements for individual institutions are highly variable and dependent on complex procurement systems. As such, the value of such detail to other institutions is limited. The fourth point focuses on the Russell Group, given its relevance to the University of Bristol, but may not be a useful benchmark for other organisations and is also thus excluded. Instead, this paper presents material relevant to the final two points, presented here as research questions:

- How have students and staff experienced hybrid teaching and learning at the University of Bristol?
- Should HE providers continue to offer hybrid into the future?

To understand these data and their relevance outside of the institution, an overview of the literature on how hybrid is defined within the HE sector is presented, including features of effective hybrid and its definition before and following the recent pandemic. Methods employed during the data gathering and analysis phase are included, followed by a summary of the data outputs in the Results section. The Discussion situates the paper’s contribution within the wider field while the paper as a whole presents a template for other

similar HE institutions wishing to evaluate staff and student experiences of hybrid. As such, this paper may serve as an instructive benchmark for other comparable education providers engaging with hybrid teaching in non-ideal circumstances.

Research background

Defining hybrid learning in the HE context

Across the HE sector, hybrid teaching is also referred to as dual teaching, multi-mode teaching, hybridx, ‘Here or There’ (HOT) and hyflex. Jeffrey Young’s opinion piece for *The Chronicle of Higher Education* (2002) set the tone for the last twenty years of HE’s tentative steps towards hybrid, outlining the potential for reduced costs and decreased pressures on classroom space, alongside emerging examples of good practice. As in many subsequent pieces of work on hybrid, the term is found to overlap with blended learning. In their 2022 literature review of hybrid teaching and learning, Hagemeyer and Dolfing note the discrepancies within the literature that employ different terminology and definitions for hybrid, and the growing need for clarity on hybrid following the impacts of the global Covid-19 pandemic. This work draws on that of Raes et al. (2020) who identify significant gaps in the literature on hybrid. The authors assert the lack of empirical data analysing synchronous hybrid education and identify the need for more data points to inform evidence-based practice and policy (Raes et al., 2020, pp. 286–287).

Efforts to define the boundaries of hybrid are disparate and hybrid is often referred to synonymously or interchangeably with blended learning. Schumann et al. (2021, p. 324) describe hybrid in terms of its potential for different modes of delivery across a spectrum of forms, from simple and rigid to individualised and complex. Kibby notes the positive potential of hybrid in a semi-defined way, whereby “At its best the hybrid course combines the connectedness of the classroom with the content richness and flexibility of the virtual learning environment” (Kibby, 2007, p. 88; see also Delialioglu & Yildirim, 2008, p. 475). In other circumstances, hybrid is more or less effective in different subject contexts, due to differentials in student perceptions, where the same methodologies are used (Louten & Daws, 2002, p. 1).

Across the literature, there is less detail on defining hybrid and more emphasis placed on its modes of expression and their relative successes. An example of this is the first chapter of Linder’s (2017) book *Hybrid Teaching and Learning*. The opening page details the various modes of delivery of hybrid, such as decreased face-to-face classroom time and increased technology-mediated content delivery and points of student activity. The rest of the chapter details the benefits of hybrid, best practice learning design, and how students and staff may operate and interact differently in this mode of delivery. There remains resistance to defining hybrid, as seen in the introduction to Snart’s 2010 book, “The choice

to let the terminology shift is meant to reflect the nascent state, not of indecision but of predecision, that we are seeing as higher education thinks broadly about mixed-mode learning that combines face-to-face and online instruction” (Snart, 2010, p. xviii). More than a decade after Snart’s assertion, the HE sector is little closer to reaching an agreed state of *decision* about how hybrid is defined. Blended and hybrid both offer face-to-face instruction and online learning activity, but it is in the detail of the application of practice that *defined* differences between these two modes of teaching and learning emerge.

Features of effective hybrid learning in an HE context

The relative effectiveness and benefits of hybrid learning are well documented. Harrison et al.’s (2016) research on a hybrid-flipped model demonstrates that this mode of learning is less successful than traditional face-to-face settings. The research identifies that students’ participation is a significant factor in this success due to the comparably low attendance from hybrid learners (c.24%) compared with in-person class-attendance (c.93%). Daigle and Stuvland’s (2018) study complements these findings. They assert that face-to-face learners are more engaged and motivated than hybrid students. Social factors such as peer-to-peer engagement and teacher interaction are suggested means by which to improve this issue. Shea et al.’s (2018) exploration of pedagogical design factors relating to hybrid practice suggest the adoption of a mediation framework to address such problems. Termed the *Blended Learning Distance Mediation Framework*, they assert the importance of three interrelated and interdependent zones of “presence”: teaching presence that includes instruction, facilitation, and learning design and organisation; social presence that prioritises communication and interaction, and group cohesion; and cognitive presence that allow learners to share knowledge and “mitigate the effects of transactional distance on student performance and satisfaction” (Shea et al., 2018, p. 383). Strawserb and Sellnow’s (2020) study *Student Perceptions of Teaching Effectiveness and Learning Achievement* compares online-only learning and hybrid delivery. Students’ response to hybrid is a major factor in learner success whereby student motivations correlate to their confidence with the use of technology. The study also shows that hybrid students felt less prepared for their assessments and prefer online-online learning to hybrid learning design. The authors conclude that technological impediments must be removed to allow students to succeed. Hod and Katz (2020) present compelling data that reinforces an important aspect of the hybrid learning experience, how sociocognitive and socioemotional needs are met. The implications for the study are twofold. First, the learner journey should include the emotional development as it relates to knowledge acquisition for the cohort. Second, hybrid technologies should foster collaboration to include space for socioemotional support in relation to this knowledge building. Together, these efforts create a community of deep learning.

Hybrid before and after the Covid-19 pandemic

Of importance to this paper is the difference between how hybrid was conceived of before the impacts of the Covid-19 pandemic and after, and how hybrid is implemented and supported differently post-pandemic. Whatever hybrid meant before 2020, it may not mean the same thing for universities into the future, in contexts where Covid-19 reverberations may continue for years to come, and where technology and expectations around technology have changed.

In the UK, a small number of national-level grey literature resources on hybrid are available. There is a notable dearth of materials on hybrid produced by AdvanceHE save for brief mentions in Loon's (2021) literature review on flexible learning. Jisc's pedagogy toolkit on hybrid learning (originally published in late 2020 and updated in 2021) asserts the risks to quality and parity of experience and provides sensible considerations and strategies. The webpage highlights barriers and challenges to effective hybrid teaching, such as staff reticence and lack of training, appropriate access and use of software, and the dangers of assuming that students will automatically work effectively with technology and online learning communities. A report on aspects of digital teaching and learning, authored by Sir Michael Barber (2021) for the Office for Students (OfS), makes six cursory mentions of hybrid but there is little substance to the report in relation to hybrid contexts. Despite this, Dr Paul Feldman, Chief Executive of Jisc at the time (2021), makes strong assertions about the potential for hybrid to deliver positive impacts for equitability and parity, what he terms "help[ing] level the playing field for some". This claim is not strongly supported by evidence in Barber's report or further information provided by Feldman. The sentiment is echoed more cautiously by Alison Johns, Chief Executive of AdvanceHE, who suggests that:

The sector now has a great opportunity to enhance the academic experience by taking the best of what we've had pre-pandemic with the positives of the very recent past. We are working with many institutions who are looking at how they adapt to a new future – "hybrid higher" as it has been coined. This means looking at organisation and structures, and the leadership at all levels to embrace change to deliver the best possible student experience. (Neves & Hewitt, 2021, p. 5)

Her comment is presented in the foreword of the *2021 Student Academic Experience Survey* report which, thereafter, never mentions hybrid again, though considerations of hybrid scenarios can be inferred from data presented under the *preferred mode of learning* subheading (Neves & Hewitt, 2021, pp. 59–60). Overall, national bodies in the UK do not provide strong guidance or evidence relating to hybrid pedagogy or practice.

Global academic literature, including that developed in the UK, delves deeper into the benefits and challenges of hybrid. A review of the academic literature on pre-pandemic hybrid teaching in HE largely concerns pedagogical design to enhance learning, the effectiveness of different forms of practice, and student perceptions of such practice. Post-2020 publications build on the existing literature with additional considerations for the changing nature of the HE sector as a result of the pandemic impacts. Chinese universities were the first to respond to the impacts of the pandemic on HE, reacting with additional online learning provision and then moving to hybrid and other delivery modes. Several significant pieces of work have resulted from reflection on this transformation (e.g., Coates et al., 2022) in addition to knowledge exchange events such as the October 2020 webinar offered by the National Academic Network of Advanced Technology (RENATA), that outlined the drive for Universities to “manage the changes ... [of] digitalization [...] conditioning the structure and operation of universities” (IESALC, 2021). Common themes of opportunities for flexible learning in contrast to technological limitations and issues of low student engagement online emerge repeatedly in the literature.

Research methods

Qualitative and quantitative research into University of Bristol staff and student views of hybrid teaching occurred in parallel between November 2021 and January 2022, using different methodological approaches. Discussions were recorded and transcribed. All qualitative data was collated and reviewed in detail by the Lead Academic in terms of *what* was mentioned and *how* it was discussed. Next, emergent themes were identified and grouped together. Data was analysed by the Bristol research team, with thematic analysis conducted on qualitative data using methods adapted from Braun and Clarke (2006) and Watts (2014).

Staff interviews

It was determined that one-to-one interviews with members of staff undertaking large volumes of hybrid teaching delivery would enrich the direction of the research. Nine in-depth interviews were conducted with teaching staff in the faculties of Social Sciences and Law (SSL) and Engineering. These faculties provided large-scale hybrid following the impact of the Covid-19 pandemic and are therefore well informed in the realities of practice. Each interview was held online via Microsoft Teams and scheduled for thirty minutes. The issues and requirements raised informed the design of the subsequent student focus groups, and staff and student surveys.

Staff survey

A staff survey was designed to test the findings from the small-scale one-to-one interviews alongside the success or limitations of hybrid implementation. The survey also included open-ended questions designed to capture nuanced, personal and emotional aspects of hybrid experiences, and provided an opportunity to capture issues that were not identified by the research team in the scoping phase. Questions were asked on which technologies were used in teaching (with a checklist and “other” option), and a positive or negative response to statements on access to hardware, software, training, and personal confidence to effective hybrid teaching. Those who had taught hybrid were asked to self-identify and prompted to answer additional questions about their experience. Specific questions asked about what resources were essential to their teaching practice, such as room layout, hardware, and software considerations. Staff with experience of hybrid teaching were also asked to rate their positive or negative agreement with a series of prompts on student learning success, overall success of hybrid teaching, the comparability of hybrid to other teaching methods, and the future of hybrid teaching. To facilitate a dialogic approach to research and forward-planning, staff were invited to provide their contact details for follow up questions.

Student focus groups and survey

It was ethically and strategically important to include student views and input into the research project in recognition of the institutional approach to championing the student voice in decision-making processes. Four focus groups were scheduled with students from Social Sciences (22) and Engineering (28), two faculties with dedicated roll-out of hybrid teaching. Focus groups were held online via Microsoft Teams, using Padlet, and lasted one hour. All focus groups used the same prepared script and prompts to support consistency and comparability across the data. Students were prompted to use Padlet to provide a definition of hybrid teaching. Thereafter, they were presented with a definition of hybrid teaching (as detailed above), asked to articulate positive and negative experiences of hybrid, and then entered into free-form discussion. Following the focus groups, students were provided with a link to a short online survey via Microsoft Forms that was designed to capture individual views. The short survey was a means by which to capture final understandings and feelings of hybrids on an individual basis, alongside demographic data (year of study, experience of hybrid teaching).

Results

Staff interview results

One to one staff interviews resulted in the following notable reflections and concerns:

- Mixed attitudes to hybrid teaching, with many staff experiencing or observing others' experience of struggles delivering hybrid teaching. Typically, this was expressed as additional workload, frequent technical issues (hardware and software), and lack of access to training. Many staff also observed poor student experience (compared to offline only or online only learning conditions), and many staff reported that online-only students disengage over time. Staff also observed that hybrid teaching resulted in a limited range of teaching and learning practice options.
- Concern for a lack of coherent messaging and communication regarding hybrid, such as clear definition of what defines a "hybrid room", and what the University's long-term plans for hybrid teaching were.
- Mixed attitudes to senior management, IT and Professional services decisions on hybrid solutions. This was commonly expressed as the University making a unilateral decision without consultation, and without understanding practical implications for teaching staff.
- Provision for standardised technical hardware and software was requested. Technical considerations included: visualisers, dual monitors, lapel/roaming microphones, and reliable Wi-Fi.

Staff survey

The staff survey collected 165 responses covering all six faculties, including sixty-two staff who had taught using hybrid teaching methods in teaching block one of the 2021/2022 academic year (Table 1).

The results of the staff survey provide insights on staff experience and learning conditions. Technical considerations are noted by a high number of staff. The need for more IT support, reliable technology, and more teaching assistants is identified. Several reports of good support are also articulated in free-text responses. These include the support provided by the IT department and the Digital Education Office, alongside bespoke practical kits provided by the Faculty of Engineering, and the local support offered via the Digital Champions initiative.

Some 96% state that hybrid teaching increases workload and 81% stated that online students have a worse learning experience than those in the classroom. Negative emotional experiences of staff are also recorded, including increased stress and frustration. Some free-text comments note a dissatisfaction with management that excluded staff from decision-making processes. Potential positive aspects of hybrid approaches are identified, namely in relation to access, inclusion, and provision for international students. Most staff express that hybrid approaches are a solution for the short term, but not something that they wish to employ forever.

Table 1 Staff survey results, asked only of staff (n=62) who had taught hybrid classes

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
In hybrid situations, students learning online have a better experience than those learning in the classroom	0%	2%	15%	48%	35%	0%
In hybrid situations, students learning in the classroom have a better experience than those learning online	42%	39%	10%	8%	2%	0%
Hybrid teaching is good for all students	2%	3%	27%	24%	44%	0%
Hybrid teaching is good for some students	5%	47%	13%	16%	18%	2%
I want the University to offer hybrid teaching next year (22/23)	6%	24%	8%	18%	39%	5%
I want the University to offer hybrid teaching forever	5%	10%	21%	10%	50%	5%
Compared to teaching wholly online or in-class, preparing for hybrid sessions increases my workload	61%	35%	2%	2%	0%	0%

Survey data was segmented to focus on staff who had taught hybrid (Table 1). Of these staff, there was recognition that hybrid is good for some students (62%) but does not work well for all students (66%). A degree of uncertainty emerges from the dataset in relation to these two points, as 27% of staff remain neutral on whether hybrid is good for all students, while only 13% are neutral regarding it being good for some students. When considering the future implementation of hybrid: in the short term, 30% are in favour, 57% are against, while 13% remain neutral or do not know; and long-term hybrid offer is less popular with 15% in favour, 60% against, and 26% neutral or unsure. This suggests that resistance to hybrid is somewhat static, while pro-hybrid staff grow less confident in the relevance of hybrid for the long term.

Student focus groups and survey

Forty-eight students were recruited to four focus groups in November and December 2021 and completed the student survey (first year, 16; second year, 7; third year, 8; fourth year, 4; postgraduate taught, 13).

The results of the student focus groups and surveys articulate several positive and negative associations with hybrid teaching and provide insight into how students perceive hybrid provision. Three major themes were identified across the dataset: educational experience; student life; and technical experience. Within the emergent themes the number of times a comment was recorded was tallied, thereby providing indicative weighting of

the most important issues identified by students. The most common positive and negative associations in these categories, as discussed in focus groups, are listed in Table 2 which shows the frequency with which each data point was mentioned. Table 3 collates evidence collected in the online student survey that took place after the focus group sessions.

Students do not always understand how hybrid teaching is defined, leading to a variety of learning expectations. Some students take hybrid to mean any form of online activity, while others have a more nuanced and in-depth understanding of the variety of hybrid contexts. Students in the classroom are almost uniformly seen to have a better learning experience than those online. There is enthusiasm for keeping hybrid amongst some of the groups. Despite this, significant numbers in all groups report that they needed to work harder to learn in hybrid classes.

Students advocate several areas of hybrid teaching that work well, notably the provision of teaching assistants to supplement lecturer contact time in live sessions, online digital interfaces that promote engagement and active learning, the flexibility and efficiency of online learning, the ability to rewatch lectures with subtitles, and the provision of direct contact with their teachers both online and offline.

Table 2 Overview of positive and negative correlation of online and on campus learning, identified by students, presenting thematic analysis summary based on focus group discussions and Padlet text comments

Online (positive)	Online (negative)
<i>Education</i> <ul style="list-style-type: none"> • Flexibility (4) • Autonomy (2) 	<i>Education</i> <ul style="list-style-type: none"> • Not engaged, low interaction (9) • Limited communication & contact (8) • Distractions, poor concentration (7) • Poor experience (4)
<i>Student Experience</i> <ul style="list-style-type: none"> • Convenient, when feeling ill (7) • Flexibility re study location (6) • Time saving (5) 	<i>Student Experience</i> <ul style="list-style-type: none"> • Reduced sociability (12)
<i>Technology</i> <ul style="list-style-type: none"> • Replaying lectures & subtitles (9) 	<i>Technology</i> <ul style="list-style-type: none"> • Camera issues (7) • Audio issues (4)
On campus (positive)	On campus (negative)
<i>Education</i> <ul style="list-style-type: none"> • Improved learning and support (14) • Staff contact time (10) • Learning with peers (5) 	<i>Education</i> <ul style="list-style-type: none"> • Distracting, too fast (4)
<i>Student Experience</i> <ul style="list-style-type: none"> • Improved sociability (15) • Increased physical activity (5) 	<i>Student Experience</i> <ul style="list-style-type: none"> • Covid-19 risk (6) • Commuting effort & cost (5)
<i>Technology</i> <ul style="list-style-type: none"> • No data collected under this theme 	<i>Technology</i> <ul style="list-style-type: none"> • Visual limitations (4)

Table 3 Student survey responses (n=46)

Category	Statement	Agree / Strongly Agree	Neutral	Disagree / Strongly Disagree	Not Applicable
<i>Technology</i>	In-classroom technology supports hybrid teaching well (e.g., computers, microphones, screens, etc.)	50%	24%	24%	2%
	In-classroom technology supports hybrid teaching consistently (e.g., computers, microphones, screens, etc.)	40%	24%	35%	2%
	Online digital technology to support learning in hybrid environments works well	63%	11%	24%	2%
	The use of Re/Play adds positively to delivery of hybrid teaching	82%	11%	2%	4%
<i>Teaching practice</i>	My teachers provide good instructions for students in hybrid learning environments	56%	33%	9%	2%
	My teachers appear to understand hybrid teaching well	43%	37%	19%	0%
	My teachers appear confident when delivering hybrid teaching	46%	28%	26%	0%
	My teachers have all the skills to deliver hybrid teaching well	30%	22%	47%	0%
	My teachers have all the in-classroom technology necessary to deliver hybrid teaching well	45%	24%	31%	0%
	My teachers have all the online digital technology necessary to deliver hybrid teaching well	55%	24%	21%	0%
<i>Learner experience - impacts</i>	Hybrid teaching interferes with my ability to learn	28%	28%	42%	2%
	Hybrid teaching creates an environment where I need to work harder in order to learn	52%	22%	24%	2%
	Hybrid teaching interferes with my learning on my course	37%	28%	33%	2%
	Hybrid teaching improves my learning	26%	35%	35%	4%
<i>Learner experience</i>	Hybrid teaching works well for learning in the classroom	61%	26%	9%	4%
	Hybrid teaching works well for learning online remotely	35%	33%	29%	4%
	Hybrid teaching is good for all students	19%	24%	55%	2%
	Hybrid teaching is good for some students	89%	2%	4%	4%
	In hybrid situations, students learning in the classroom have a better experience than those learning online	94%	4%	0%	2%
	In hybrid situations, students learning online have a better experience than those learning in the classroom	6%	15%	76%	2%
	The University ensures that all students feel confident about their use of learning technologies in support of hybrid teaching	48%	26%	26%	0%
<i>Future planning</i>	I want the University to offer hybrid teaching for the next year	43%	11%	44%	2%
	I want the University to offer hybrid teaching forever	30%	22%	44%	4%
	The future of teaching and learning at University requires the use of hybrid teaching methods and technologies	58%	20%	20%	2%
	All teaching spaces on campus should facilitate hybrid teaching delivery	67%	24%	9%	0%

Many students suggest that better technology and more staff training is needed to support hybrid, and often thought staff were not confident in their use of hybrid teaching delivery methods. Specific areas identified for improvement include better audio set-ups, dedicated cameras for demonstrations, increased online engagement to deepen social relationships, and more direct contact with lecturers.

Survey responses are perhaps the most useful dataset collected from students as the data was collected after clarification on what constitutes hybrid was defined. Here, there was opportunity for students to reflect, collect their thoughts, and share their singular opinion separate from the rest of their focus group. The strongest finding from the data here is that classroom experiences are better than online experiences during hybrid delivery. Indeed, students clearly articulate that benefits to hybrid exist, but that the detriments are problematic.

Limitations

A limited number of students in hybrid-engaged degree programmes participated in student workshops. While every effort was made to ensure representation, the data is an imperfect measure of student views. In the future, it is envisioned that an all-student survey will provide the means to collect student views more broadly. The data is limited to the experience in the specific context of the University of Bristol and may not be truly representative across the HE sector. The scope of the research is limited by the questions posed to address internally mandated priority areas and may not reflect the breadth of hybrid considerations. These findings can, however, be generalised to other HE institutions where hybrid teaching has been implemented and where there is some uncertainty over its efficacy.

Discussion

Mixed method approaches to understanding staff and student experiences of hybrid contribute valuable insights into the adoption of hybrid in an emergency context. There are some points of overlap between staff and student views: the need to develop staff confidence in the use of hybrid through additional training; the potential for hybrid to support access and inclusion considerations; problems and limitations of technology to deliver hybrid seamlessly; decreased engagement and sociability through hybrid, predominantly for online students; the positive benefits of additional teaching support staff; and common concerns that hybrid may not be suitable for long-term adoption by the institution. The pivot to hybrid adoption at speed for some, but far from all programmes, made central communication about hybrid with staff and students difficult, and impacted on their understanding and experience of the change. The rapid pivot in the face of international travel restrictions meant that the normal adoption cadence of technology-

enabled practice was severely disrupted, moving straight from the innovators to most staff on specific programmes, who often felt that they had not been consulted. Although support was provided, both immediately prior to adoption and to share emerging practice and impressions after a few weeks of teaching, there was not time for early adopters to evolve effective practice in their discipline and share this with colleagues. Some staff therefore required more support than was provided or known to be available. This suggests that a review of how support is communicated may be required, alongside more provision, and a longer, more structured lead-in. For students, the lack of clear centralised communications on what defines hybrid resulted in student confusion and a risk of problematic expectations. The focus group and survey findings echo conclusions from the literature: lower engagement and motivations in online-only learning compared with face-to-face settings; the significance of domains of sociability and engagement; uneven reliability and use of technology; lower staff confidence in teaching in hybrid contexts; and negative impacts on the learner journey in hybrid contexts.

Two themes emerge from the data. First, structural and technical considerations involve issues with cameras, microphone and space, alongside technological confidence and accessibility issues. In some cases these were specific to the covid context, such as initial concerns over the safety of shared lapel microphones, which led to poor audio quality, significantly impacting on the experience of remote participants. These issues can largely be overcome in individual rooms through infrastructural and IT investment, and as technology improves. There are likely to remain, however, some more stubborn challenges: at the room level, the technical-logistical challenges of audio and video capture, playback, and sight lines in a room holding varying proportions of in-room and remote participants; and at the institutional level, the management of a teaching estate including only some rooms differently equipped for hybrid teaching of cohorts of different sizes. The second theme concerns pedagogic considerations which are more complex to resolve. They include differing experiences of engagement, how interactions are facilitated, and learning design. How students engage with each other and with their teachers, whether online or face-to-face, poses problems of equitability and parity of experience. The literature and this study confirm that online-only experiences are considered less engaging and sociable than “traditional” face-to-face learning. This is a risk not only to the student experience in terms of relationship building and sociability, but also a risk to sociocognitive learning and social cohesion within the cohort (as per Hod and Katz, 2020; Shea et al., 2018). It is, therefore, important to create spaces and activities that facilitate a sense of community and social cohesion in support of hybrid learning. Successfully doing this is crucial to the success of hybrid as an approach, since one of its most important potential benefits over running separate on-campus and online sessions is to maintain cohort cohesion. Further learning

design should also consider the nature of activities in sessions, focusing on active and collaborative pedagogy.

Both staff and students assert that hybrid teaching is inferior to face-to-face experiences, and that learner parity is not enabled via hybrid delivery. Most of the learners studying remotely in our study were forced by circumstance to do so because of international travel restrictions, rather than choosing that mode of participation, and their experience as ‘dislocated’ learners seemed to become particularly disengaging as time wore on and more of their peers were able to return to campus. Despite this, both groups also believe that there is sound rationale for continuing provision for hybrid for accessibility and practical reasons. This latter sentiment is more strongly expressed from the student perspective. There also seems to be a difference between individual students not wanting their learning experience to be delivered through hybrid, while promoting it as an option for other students. For these students, hybrid was delivered imperfectly which may influence their viewpoints negatively, or the emergency circumstances for hybrid adoption may engender a degree of willingness to accept imperfection with compassion. The data is unclear on this matter, but a level of compassion may be inferred from the many statements that arose during the focus groups in recognition of the high commitment and effort of staff during hybrid teaching delivery.

The HE sector is poised to learn from pandemic-experiences of hybrid and reduce the risks of non-emergency delivery of hybrid towards the right balance of hybrid for their contexts (as per Delialioglu and Yildirim, 2008; Kibby, 2007; Maguire, 2022; Schumann et al., 2021; Snart, 2010). There is also scope to consider how institutions define hybrid clearly to manage expectations and communications between staff and students (as per Hagemeyer and Dolfing, 2022; Louten and Daws, 2002; Raes et al., 2020). Definitions also extend into articulating expected benefits and limitations of approaches (see Daigle and Stuvland, 2018; Harrison et al., 2016; Linder, 2017; Shea et al., 2018) as such considerations affect students’ emotions, motivations, achievements, and perceptions of teaching effectiveness (Hod and Katze, 2020; Strawserb and Sellnow, 2020).

Sublimated within these thoughts and feelings about hybrid are considerations for the future. The question arises, *what hybrid will be offered and to whom?* Towards the end of the pandemic, considerations of future implementation of hybrid were understandably focused on a need for business continuity, especially in terms of the ability to attract and teach international students, raising important issues of parity and equitability. In a difficult financial climate, universities value growth business models, so may be tempted to offer hybrid at high cost to the student, while cutting operational costs by avoiding campus space use and relying on reused asynchronous content. Post-pandemic, many UK universities are finding that student attendance is often lower than previously at on-campus sessions, and some are considering whether a hybrid approach would encourage more students to attend,

enabling them to cut travel costs and fit study around paid work and other commitments. There are many attendant risks, in terms of lowering in-person attendance still further and impacting on the feeling of belonging of all students, but particularly those who have more commitments to manage and are most likely to need to attend remotely. More generally, there is a quality risk. If, as the data and the literature state, hybrid is typically considered as an inferior student experience, why should hybrid be offered? Who benefits and who loses out? Universities need to establish a *philosophy of compromise* that articulates not with the oft-spoken business-speak of *excellence* and *sector-leading best practice*, but communicates the reality of the hybrid offer.

Conclusions

This paper contributes to theoretical understandings of hybrid teaching in post-pandemic contexts, with resulting practical implications for planning and practice. The same issues with hybrid that existed in the pre-pandemic era continue to be problematic, so providers still need to be mindful that these issues can persist. The contextual difference is that many HE providers are better equipped pedagogically and technologically to manage this mode of delivery. This does not mean that hybrid will be the right pedagogical choice for providers, however. It is incumbent on the sector to reflect, in context, if hybrid is right for their learners with respect to the limitations inherent in hybrid. What is an ideal solution for some will not work for others.

This paper adds to the growing corpus on hybrid teaching and learning practice in HE, offering perspectives from both staff and students, in an emergency context impacted by the Covid-19 pandemic. Contributions to the gaps in the literature, as identified by Raes et al. (2020), include additional data points on staff and student experiences of hybrid, including detailed student concerns such as the effort and cost of commuting as a factor in their decision to attend learning on campus or online for live synchronous sessions. The sector's concern for hybrid to address equitability, as speculated by Feldman (2021), are also reflected in the data. For both staff and students, hybrid offers a potential methodological option for addressing issues of access and inclusion, but this benefit is contrasted against practical concerns for staff workload and overall student experience. Hybrid is unlikely to serve as a panacea to the difficulties of an increasingly technologically-engaged and internationalised HE sector, but it can act as an implementation solution in some contexts. At the very least, each institution should communicate what it defines as hybrid to both staff and students, and provide support where hybrid adoption is essential. The sector should also move forward cautiously in its adoption of hybrid and the way that hybrid may be presented to students as an optional mode of learning, caveating that hybrid may result in comparably inferior learning experiences.

The evidence presented concludes that:

- Staff and students agree that hybrid is inferior to face-to-face learning.
- There can be compelling rationale for considering the use of hybrid (e.g., accessibility).
- Communication on the definitions, benefits, limitations, and support for hybrid, including training, are essential for successful delivery of hybrid.
- Technical provision for hybrid should be reliable and equitable, including staff confidence in using software and hardware.
- Hybrid practice should prioritise domains of sociability and engagement to promote success.

Abbreviations

BILT: Bristol Institute for Learning and Teaching; DEO: Digital Education Office; HE: Higher Education; OfS: Office for Students; SSL: Social Sciences and Law.

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Authors' contributions

Aisling Tierney is the Lead Researcher who designed the hybrid project and undertook all academic aspects of delivery. Sarah Davies is the senior manager with strategic oversight. Isabel Hopwood is a pedagogic consultant on the outputs of the project. The first author drafted the manuscript and the second and third authors reviewed it and suggested additional text and modifications. All authors read and approved the final manuscript.

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Declarations

Competing interests

The authors declare that they have no competing interests.

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