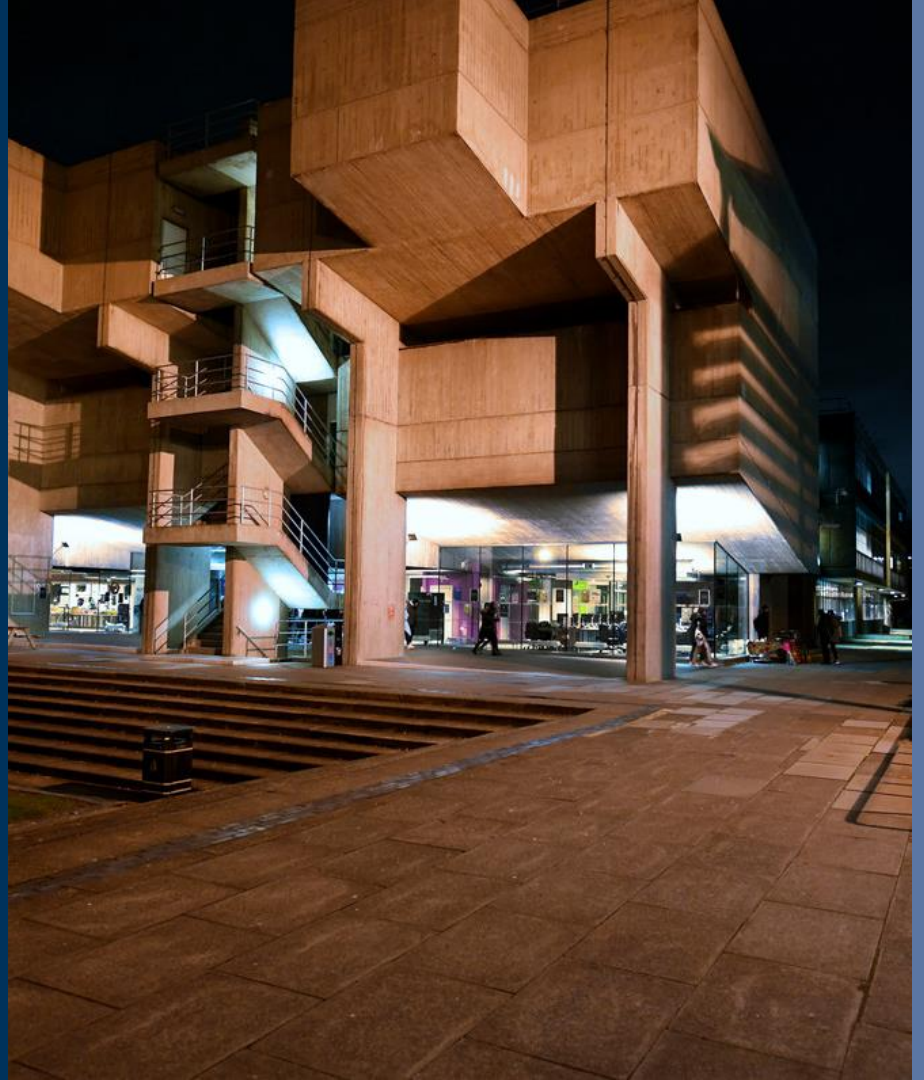


Hybrid working – what does the future look like?

Stephen Langdon

HoDoMS Annual Conference 2022

April 29th 2022



Before 2020...

- We all went to the office every day
- We taught students live face to face in the classroom
- We assessed students in person under invigilated conditions

Before 2020...

- We all went to the office every day (mostly)
- We taught students live face to face in the classroom (mostly)
- We assessed students in person under invigilated conditions (mostly)

January / February 2020...

- Starting to consider some aspects of hybrid delivery
- Lectures (on-campus) being recorded (some issues with writing on whiteboards)
- Motivation:
 - Commuting students
 - Sick students
 - Students with additional needs
 - Students with jobs
 - ...

Since 2020...

- We have been working from home
- We have been teaching students online via Zoom / Teams / ...
- We have been assessing students online, without invigilation

Since 2020...

- We have been working from home (mostly)
- We have been teaching students online via Zoom / Teams / ... (mostly)
- We have been assessing students online, without invigilation (mostly)

What will the new normal look like?

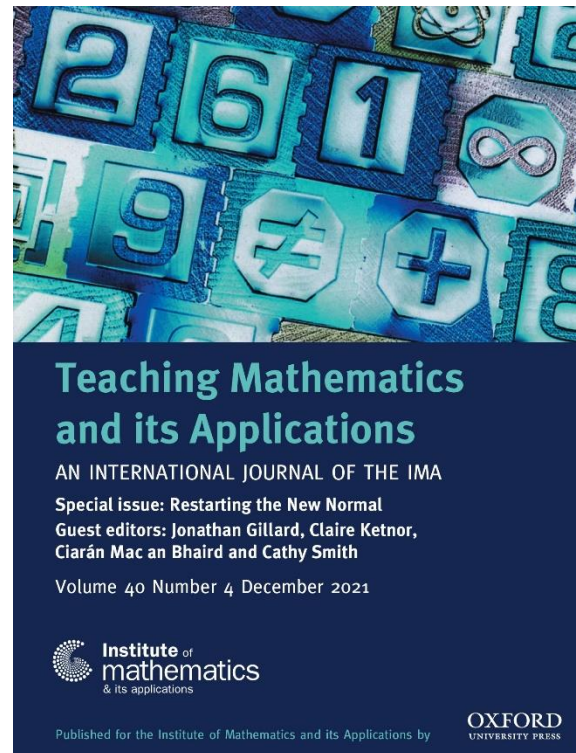
- Back to pre-2020, or ...
- ... make use of what we have learned in last two years to do something better?
 1. Hybrid teaching
 2. Hybrid assessment
 3. Hybrid working

Hybrid Teaching: “Restarting the New Normal”

27 April 2022

Articles focused on:

- Approaches to teaching post-16 mathematics to students during COVID-19 restrictions,
- The needs of mathematics learners in COVID-19-affected cohorts
- General distance learning of mathematics

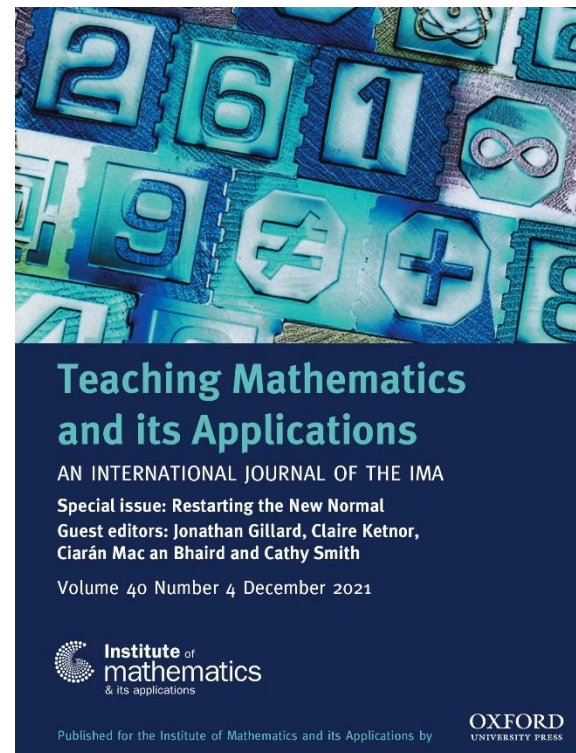


Hybrid Teaching: “Restarting the New Normal”

27 April 2022

‘Everyone seems to be agreeing at the minute that face-to-face is the way forward’: practitioners’ perspectives on post-pandemic mathematics and statistics support, by Holly Gilbert, Mark Hodds, Duncan Lawson

- Questionnaire in May 2020 (early stages of moving online)
- Interviews in early 2021 (after some experience with online teaching)
- Key question: “*What will Mathematics and Statistics Support look like once restrictions have ended?*”
- Consensus view: “*Face-to-face Mathematics and Statistics Support will return as the dominant form of delivery but the benefits of online provision are such that a significant minority of provision will remain in this form.*”



Hybrid Teaching: “*Responding to the COVID-19 pandemic*”

Changes with time of Practitioners’ opinions of online Mathematics and Statistics Support, by Holly Jade Gilbert

- Initially 54% of practitioners said online support was worse than in-person support
- In 2021, 100% of those interviewed said they would continue with online support after the pandemic.
- Key advantages of online support: flexibility and accessibility

MSOR Connections

Articles, case studies and opinion pieces relating to innovative learning, teaching, assessment and support in Mathematics, Statistics and Operational Research in higher education.

Volume 20 No. 1.

CETL-MSOR Conference Special Issue 1:
Responding to the COVID-19 pandemic



Hybrid Teaching: “*Responding to the COVID-19 pandemic*”

Changes made to the teaching of linear algebra and calculus courses in the UK in response to the COVID-19 pandemic,
by Maryam Alarfaj, Steven O'Hagan, Chris Sangwin

- Survey conducted with lecturers in Calculus and Linear Algebra
- Mixed views regarding the importance of offering on-campus classes once restrictions lifted
- “Many of the lecturers in the study preferred and were enthusiastic about retaining what had been created and provided during the pandemic”
- Online learning here to stay?

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Hybrid teaching

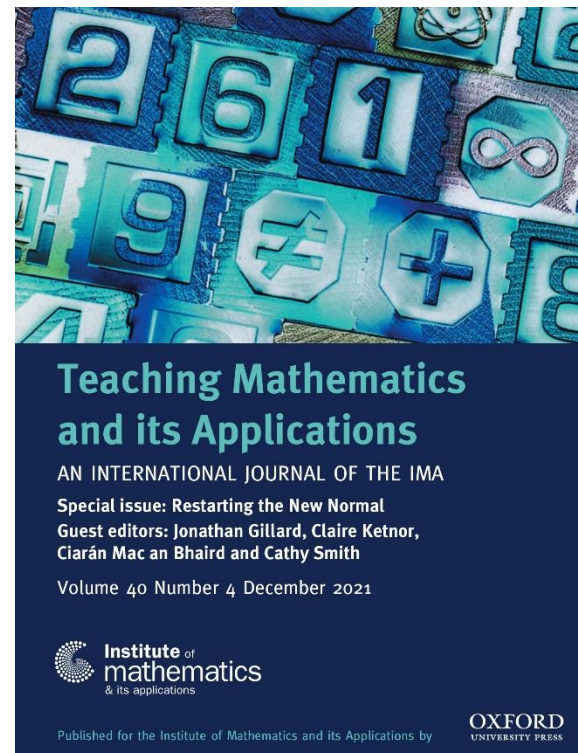
- Benefits of on-campus:
 - Better student engagement, sense of community
 - Immediate student feedback
- Benefits of online:
 - Accessibility
 - Easier timetabling
- Can we combine benefits of both?
 - Online and on-campus days?
 - Recordings of taught sessions?

Hybrid Assessment: “Restarting the New Normal”

27 April 2022

Levelling the playing field in assessment: an analysis of attainment gaps for widening participation, black and minority ethnic mathematics undergraduates before and after the COVID-19 lockdown, by L. M. Shaw and M. R. Tranter

- Comparison between pre-covid (on-campus) and post-covid (online) assessment results, for same cohort of Level 4 Mathematics students at Nottingham Trent University.
- Attainment gap closed in this cohort for black and minority ethnic students.
- Students from a lower socio-economic background may have been put at a disadvantage by the move to online teaching, learning and assessment.



Hybrid Assessment: online or on-campus exams?

- Discussion on HoDoMS mailing list, March / April 2022 re: online or on-campus exams
- Complaints from some students regarding return to on-campus assessment
- Nine departments (out of 29 that responded) will hold entirely online exams this year (though in most cases with more stringent time limits than last year). Most (all?) of these hope to go back to on-campus exams in the future.
- 20 departments (out of 29 that responded) will hold some (in many cases all) exams on-campus this summer.
- Most universities appear to be understanding of the request from Mathematics departments to assess under invigilated circumstances, though some are asking for “more authentic modes of assessment” in the future.
- Some departments are running their on-campus exams as “open book”, with students allowed to bring notes.

Hybrid assessment

- Benefits of on-campus:
 - Invigilation
 - Same experience for all
- Benefits of online:
 - Accessibility
 - Easier timetabling
- Can we combine benefits of both?
 - More “authentic” assessments
 - Video presentations, online vivas, project work, ...

Hybrid working

- Benefits of on-campus:
 - Ease of communication
 - Sense of community
- Benefits of online:
 - Reduced commuting / flexible working / work-life balance
 - Less office space required
- Can we combine benefits of both?
 - WfH more than before, less than during pandemic?
 - Easier online access to meetings / conferences / seminars / ...

Hybrid research

- Planned Newton Institute discussion (later this year): “sustainable optimization of mathematical research interactions.”
- *“We've all experienced a thorough immersion in the benefits and problems of online seminars and collaboration, and this seems like a good time for us to think about the best route forward, for mathematics and for the planet, in mixing in-person and online interactions, both for INI-ICMS research activities and more generally.”*