'Hybrid' Learning in Medical Schools: A report from the MSC Digital Education Group

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Context

During the COVID-19 pandemic medical schools in the UK transitioned to a fully online offering. As restrictions began to lift, and some activities and individuals could return on-site, there was an issue of how to teach students who are partly online, and partly on-site. Many schools delivered face to face sessions whilst streaming the experience live to students who could not or did not want to attend in-person, with varying levels of interactability for those not in the room. For most institutions this affected primarily lecture content and small-group sessions, but not hands-on content such as clinical skills. Most schools have now returned to a majority of on-site activities, but many are continuing with a form of 'hybrid' learning, allowing students choice and flexibility in their studies.

This report has gathered data and contributions from staff at 22 UK medical schools to gain consensus and advise on some of the issues surrounding this mode of education.

Definitions

Hybrid learning is a contentious term, but here we use it to mean a mode of delivery in which students are able to attend either in-person, or online. It is not to be confused with blended learning, a mixture of instructor-led content (often in-person), and material in which the student has a degree of control over how they engage with it. Other terms frequently used are flexible, hyflex, dual mode, mixed mode, and have little consistency across the sector (Raes et al, 2020).

Survey

An initial survey (n=17) was carried out to identify how medical schools have responded to this mode of delivery. This involved a mixture of quantitative questions focussed on what and how schools are delivering, and free-text qualitative responses on the rationale and challenges faced.

70% of schools are currently, and will be providing 'hybrid' sessions in the future. Of the schools which deliver in this mode, 94% currently deliver lectures in this fashion, dropping to 70% for small group teaching, and only a single school currently utilises this mode for anatomy, clinical skills, and communication skills. 77% of schools provide delivery support to their staff delivering 'hybrid' sessions, through a mixture of the central IT team, specialised roles, students, learning technologists, and administrative staff.

All schools at least provide the most basic setup requirements of a laptop or PC, and a projector. Less than half of schools provide additional screens for monitoring of chat, audience-microphones, or additional screens and webcams for students online and in-person to view each other.

The rationales for use of the 'hybrid' modality was as follows:

- Necessity – where there are ongoing covid restrictions, or overly large cohorts

- Effectiveness – where students and staff perceive value in continuing to deliver in this mode

- Convenience – for student flexibility (illness, isolating, care responsibilities)
- Efficiency – for courses with split cohorts and placements, enabling easy access to sessions

Key observations:

- There is a lack of evidence for decision making around the use of 'hybrid' learning
- There is a strain on already stretched teaching staff
- There is a lack of support for infrastructure and training
- Many report resistance from colleagues in adapting to the new teaching modality
  - In addition NHS staff who drop in for 1-2 sessions are particularly difficult to train
- Student interactions in sessions can be higher or lower than face to face sessions, and requires careful thought as to how the interactions are performed
- 'Hybrid' learning has enabled live sessions from clinicians at a particular trust to be broadcast to all students easily

Small Group Discussions

The survey provided a kicking-off point for a discussion which centred around the following 4 questions. A mixture of academics and learning technologists, both groups highly experienced in the issues faced, formed groups to tease out the key issues, further questions, and conclusions for the below.

1. What support does an individual need to deliver a 'hybrid' lecture?
- Ideally technology needs to be set up in advance and require little to no input from the academic. Where there are setup steps, these need to be simple and clear
- There needs to be a parity of technology for students in the room to interact with the online cohort - e.g. laptops/phones
- Understanding the motivation for delivery in this type of mode was highlighted as important, with a clear rationale needed for staff to embrace this
  - There needs to also be decisions on what types of learning fit this mode of delivery
- An additional individual to 'stage manage' the remote and present audience – it is unrealistic for a single person to deliver a quality educational experience
- Advice and exemplars on how to effectively run this type of session

2. What infrastructure and training challenges need to be met for 'hybrid' learning?
- Good audio capture of both the teacher and students raising questions is essential
- Cameras need to be placed to always have view of the teacher
- Training needs:

- o Consideration of anxiety

  - o General digital literacy (staff and students)

  - o How to manage 'hybrid' sessions

  - o How to manage the different needs of students online and in-person

  - o How to learn effectively in this mode

3. How are our students, academics, and technologists finding this mode of education?

- Students – poor experience in the early attempts, now a mixed bag. Students have differing preference of mode (most agreed an anecdotal 50/50 split in favour or against). It was noted that we should be mindful of what past experience our students have had in terms of online education.

- Faculty – difficult to engage and get on board, especially for the first time. A high proportion of visiting lecturers make supporting very difficult

- Learning Technologist – technology being set up correctly has often been the key factor in success, and LTs have had to work more closely with central IT teams to facilitate this

- Teaching Support Staff – often roped into helping with little consultation or consideration of demand on their time. As a group who are usually present on-site they are at risk of being asked for support

4. What software/technologies can improve this mode of education?

- Generally, any software used needs to be extremely intuitive and simple to learn and implement

- Mentimeter-style polling highlighted as having good engagement in-room and online

- VR, 360 degree recordings, virtual ward rounds were discussed as complementary technologies which could be integrated alongside 'hybrid' learning

- New software is difficult to implement as need a clear use case which you can't get without staff experimenting and using it

- Medical schools mostly sit within much larger universities and often there is a 1-size fits all approach to solutions in terms of software that needs to be considered

Recommendations

Most schools are still in a reactive state, having not yet made key decisions about the use of 'hybrid' learning, largely due to the prolonged state of flux owing to covid, adaptation to new technologies, and the large-scale nature of the issue. Several key areas have been discussed and the following recommendations reached:

The pedagogic reasoning for use of 'hybrid' modalities must be established to drive successful use (some universities have begun to examine this, e.g. Sussex have decided not to use it). Within this schools must consider the experience of student in-person, and online, and whether catering to both might lead to a lesser experience for all if not properly resourced.

If adopting this mode of education delivery schools must invest in the infrastructure. Both in terms of AV equipment, and a robust model of staff support. A single individual, even a highly trained one, is unlikely to be able to deliver a successful session on their own. It is also noted that there are multiple points of failure (technology, training, support), and that any one of these can derail a session.

Anecdotally medical students are divided on their preferences for mode of learning. This requires further study to identify whether student preference aligns with personal educational benefit. A key advantage of 'hybrid' learning is flexibility, which students have now come to expect.

Visiting lecturers pose a huge problem in terms of training, and would require another individual's support to effectively deliver sessions, ideally not having to interact with the technologies themselves.

Summary

To conclude, 'hybrid' learning is a powerful tool that has the ability to bring people together that was previously not possible, improving accessibility amongst certain groups, and has the potential to be developed to further educational benefit. At present there are many drawbacks and large investments required for success, and until there is clear reasoning for use and a wider evidence-base to draw on, it may be difficult to justify advantages over alternative methods. However, to a degree the 'genie is out of the bottle', and schools may find themselves forced to adapt to this methodology, or apply it selectively, to maintain the student experience expected post-covid.

References

Raes, A., Detienne, L., Windey, I., Depaepe, F., 2020. A systematic literature review on synchronous hybrid learning: gaps identified. Learning Environments Research. 23.

Contributors

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