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Hyflex and hybrid teaching and learning in higher education: evolving discussions in the post-Pandemic era

Dale Mineshima-Lowe¹ · Alexandra Mihai² · Madeleine Le Bourdon⁴ · Louise Pears⁵ · Patrick Bijsmans³  · Paul Hadjipieris⁶ · Simon Lightfoot⁵

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Abstract

This collaborative piece provides our collective thoughts and experiences on teaching related to Hyflex and Hybrid environments within higher education (HE) institutions across countries. The piece is the evolution of discussions which started at the ECPR's TLP Conference in Bratislava (and online) in June 2022 on this topic of hyflex and hybrid learning, and the changing HE environment we are all seeing and experiencing. We offer our thoughts and experiences, but also ask colleagues within our discipline to consider the questions and implications of many of the choices being made for ourselves as teachers, and for our students in the evolving learning environment in this period coming out of the pandemic.

Keywords Hybrid and hyflex · Teaching and learning · Higher education · Post-pandemic

Introduction (Dale Mineshima-Lowe)

As we move into a period of transition from pandemic restrictions that required innovative thinking and faster transformations to teaching and learning, we find ourselves asking—back to face-to-face (f2f) teaching, hyflex and hybrid learning, what way forward? What shared experiences and concerns should we take with us into a post-pandemic higher education (HE) environment that is transforming in a number of ways simultaneously? What has everyone else been doing and where do we all go from here? These questions were central in my mind when I decided to initially pitch the idea for and organize a virtual roundtable as part of the ECPR's Teaching & Learning Politics (TLP) Conference held in June 2022 over in Bratislava.

While the original roundtable discussion was pitched on having panelists share their thoughts related to hyflex and hybrid teaching in this post-pandemic period, as I drafted ideas and possible questions for the panel to address, I began to notice a moving trend about post-pandemic learning. Through a number of workshops and

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mini conferences being held (mostly virtually), even within discussions within universities within the UK for example—a focus on a future to integrate hyflex and hybrid teaching at both the undergraduate and postgraduate levels, had become part of many discussions about HE in a post-pandemic era. However, it left me puzzling over what exactly all these discussions and movements meant by ‘hybrid’ and ‘hyflex’...were they all addressing the same thing? This question became a part of the discussions for the roundtable.

What follows in this piece are expansions on the initial Roundtable discussion from the conference. Each panellist from the roundtable was asked to contribute a summary of the points they raised within the panel discussion, and in one case, a panellist had connected us to the contribution of colleagues to fill a gap we found in follow-up exchanges after the conference. The contributions emphasise the different angles of this ‘puzzle’. The first contribution, from Alexandra Mihai focuses on the institutional context and support. The next, from Patrick Bijmans, examines hyflex and hybrid in relation to technology use in the context of active, interdisciplinary, and international classrooms. For more discussion on the use of technology within the larger hyflex discussion, Madeleine Le Bourdon and Louise Pears examine how individual students’ informal use of technology can and should be considered within a larger context about how this is included in the learning process, and of issues related to assumed digital literacy. The final contribution to the discussion provides a case study from Paul Hadjipieris, to provide students’ perceptions of hybrid learning. These different perspectives, presented from different lenses, are useful as a starting point for fostering further dialogue within our discipline. Posing ideas and questions about what these new models and modalities of teaching and learning mean for us as academics teaching, for students on our modules and courses, and particularly about the evolving SoTL (scholarship of teaching and learning).

As for my own thoughts about the topic, some I have alluded to already—in particular, getting a better understanding of how different institutions, different groups within institutions, are conceiving of ‘hyflex’ and ‘hybrid’ and whether there are distinctions between the two. Perhaps as a starting point for the contributions to follow, I offer a simple distinction here about the two terms, not conclusive, but as a point from which to begin to view the challenges, institutional support questions, assumptions about students as learners, development of learning communities, and of what both students and teaching staff want and need. A definition of ‘hybrid’ within HE includes the simple idea that learning includes both digital components and face-to-face ones that students engage with. However, others extend the use of ‘hybrid’ to encompass the offering of a learning space where there is no separation between face-to-face student cohorts from digital student cohorts. More broadly, the distinction rests on the fact that ‘hyflex’ should consider not two but three possible modalities of learning by students (e.g., face-to-face, online synchronous, and online asynchronous). So, what then is the distinction between ‘hybrid’ and ‘hyflex’? From our contributors, the above use of the terms is both similar and yet distinct, where ‘hybrid’ and ‘hyflex’ is discussed in terms of a synchronous use of modalities [Mihai and Hadjipieris]. The other contributions from Bijmans, and from Le Bourdon & Pears, focus more broadly on the use of technology as a distinguishing point between the two terms.



The questions I started this endeavour with are addressed across the contributions here, considering: How do we balance the changing spaces of learning? What kind of institutional support is provided and/or needed? How do students view ‘hybrid’ and ‘hyflex’ learning spaces? And are these distinct to students? Do these learning models take into account students’ digital literacy and how they are changing the ways in which they learn and need to learn within our HE institutions? Our hope is that these thoughts we share will add to the evolving discussions we have seen and experienced at various levels, institutions, and countries, within HE post-pandemic.

Moving towards a hybrid learning space? Considerations on design and institutional support (Alexandra Mihai)

As we are starting to (re)imagine the HE landscape beyond the COVID-19 pandemic, we come across more and more universities that are considering moving parts of their educational offer to a hybrid mode in the coming years. This builds on the lessons learned in the past years and the familiarity many students and educators acquired with educational technology. There are also more pragmatic, logistical reasons behind this idea, like the lack of physical space for the envisaged growing number of students. More importantly, a hybrid learning space would facilitate the opening up of courses and programmes, ensuring universities can reach out to and tap into a broader audience.

However, despite the fact that the use of technology has become widespread, and widely supported, throughout the pandemic, designing for and teaching in hybrid mode does not come without challenges. Careful consideration is required both from a learning design and an institutional support perspective. Blending several teaching and learning modes simultaneously requires more bandwidth from faculty and students than either in-person or online instruction alone.

Learning design for hybrid spaces

The main consideration in terms of learning design when it comes to hybrid spaces is *creating an inclusive environment*, by bringing the online and in-person students together, without favouring one over the other, consciously or unconsciously. This can be achieved by trying to accommodate the needs of both groups in terms of learning activities and modes of interaction. This is particularly challenging in an active learning context, based on small group collaborative learning. Designing a variety of activities that involve different types of engagement and intentionally connecting students across modalities can be useful ways to make the hybrid space more inclusive.

Ensuring that both groups have positive learning experiences requires empathy and flexibility from the teacher but also buy-in and understanding from students. Each group will be accessing and experiencing the class differently, so clear and transparent two-way communication is crucial, as well as making time and creating opportunities to get familiar with the space so that learning can take place.



Creating and maintaining a shared hybrid space, where all actors feel equally seen and empowered is not an easy task, both from a pedagogical and a technological perspective. It required a substantial level of support, often making hybrid learning experiences more expensive and complex than initially envisaged.

Support for hybrid education

Universities opting for hybrid education are facing important decisions. To be able to create and offer an optimal experience that goes beyond the compromise solutions we often saw in the last few years, they need to allocate resources to develop the infrastructure, as well as provide continuous technical and pedagogical support. In terms of technology, this means that classrooms need to be equipped with professional cameras and microphones, as well as interactive whiteboards. Various types of conferencing software need to be purchased and supported, to enable smooth connectivity across modalities. More importantly, sufficient training on how to use this new infrastructure, as well as just-in-time support are crucial aspects for the success of hybrid education. All this will likely go beyond current IT capabilities, so universities need a pragmatic strategic approach in order to appropriately back their new narrative.

Beyond technological requirements, teaching efficiently in a hybrid mode implies a mind shift in terms of pedagogy. In this context, the value of learning designers (present under different names depending on the institution) is becoming more apparent than ever, as partners to the faculty in creating hybrid learning experiences. Simultaneously blending two different learning experiences that complement—or at least don't conflict with—each other can be a daunting task, and thus making pedagogical support available at all stages of the process can reduce the burden on a faculty and at the same time facilitate a better experience for students. This can take various shapes, from practical help with designing learning activities that work in this space and ideas on how to engage students across modalities, to advice on practices that should be avoided, based on existing evidence. Last but not least, as learning design is an iterative process, and especially in a new type of environment, continuous evaluation helps all actors involved adjust to the new teaching and learning space.

Institutional challenges

Given the specificities of the hybrid mode, as well as the considerable amount of support necessary to ensure its smooth operation, universities are in the position to make important commitments in terms of resource allocation that can eventually also have structural implications at institutional level. While both technology and pedagogy play an important role in this equation, it is often all too easy to go on the path of technological determinism, placing emphasis on the virtues of technology. Universities should try to avoid that approach and (re)focus on learning instead of giving in to the latest technological hype. One way of doing this is by making more pedagogical support available, ideally both at central and at faculty level.



Moreover, moving deeper into the institutional dynamic, the teams in charge of technological and pedagogical support should ideally speak to each other and be aware of each other. While this sounds like common sense, such concerted action is not to be taken for granted in a highly fragmented HE landscape, as in many universities the two teams belong to different departments and the communication channels are not always open or transparent.

In conclusion, for hybrid teaching and learning to work at its full potential, it is very important that different actors at university level work together in a cohesive manner. Clear communication with faculty and students, as well as effective signposting of the available support are equally relevant for the success of this endeavour. Hybrid teaching is not about cutting costs and simplifying things. It is about designing a new type of learning experience, complex both technologically and pedagogically and that requires material and human resources as well as efficient processes in order to succeed.

Picking up on a few points raised by Mihai and looking more specifically in the context of European Studies, International Relations, and Politics, Bijsmans raises the issue of interaction and community-building for and by students. What opportunities does technology afford for learning communities to evolve?

Teaching and learning in post-Covid times: the importance of community and interaction (Patrick Bijsmans)

When the pandemic hit early in 2020, HE institutions embarked on what can best be described as emergency remote teaching and learning. For most of us, our encounters with online HE represented an altogether new experience. Today universities have predominantly returned to in-person teaching and learning. Yet this does not mean that roughly two-and-a-half years of online experience have been forgotten about. Indeed, there have been numerous initiatives to further explore the opportunities and challenges offered by hybrid, hyflex and online environments. Here, I reflect on these challenges and the opportunities through the lenses of what in my view are three key elements of teaching and learning in fields such as European Studies (ES), International Relations (IR) and Political Science (PS), namely active learning, interdisciplinarity, and an international classroom.

Active learning encourages students to take control of their learning process in a collaborative and contextual setting. Through engaging with concepts and theories in a more authentic, real-life context, students become more motivated to learn even seemingly unexciting subjects, such as European Union (EU) politics. It therefore comes as no surprise that forms of active learning are being widely deployed, as, for instance, illustrated by the forthcoming volume *Teaching European Union Politics*, (Gravey and Huggins, forthcoming 2023).

In addition, the topics that our students discuss, such as recent European crises, can never be fully understood from an economic, legal or political perspective alone. In order to understand, say, contemporary European developments, we also need to analyse historical developments and the different cultural backgrounds of European



countries in and outside the EU. Hence, there is a need for an *interdisciplinary focus*. Political science alone is not enough to solve the European ‘puzzle’.

Finally, authentic teaching and learning ideally confronts students with ideas and views from peers from different backgrounds, in an *international classroom*. In countries such as the Netherlands and the UK, politicians have recently raised questions about the value of internationalisation. Yet, HE internationalisation is generally seen as a positive development, for instance because it stimulates the acquisition of intercultural skills that are essential in today’s globalised societies.

Naturally, this is not in automatism. For instance, colleagues and I found that interaction between students can get lost in translation when classrooms are too international (Bijsmans et al. 2002). Such challenges can be overcome, for example by training staff and students in engaging with people from other backgrounds. The opportunities offered by hybrid, hyflex and online environments can be helpful here too. But, as I will argue here, we should not forget that active learning in an international classroom is dependent on the social and academic integration of students and staff to foster community and interaction.

Inclusiveness and different views

The experience that we have gained during the pandemic offers opportunities to deepen active, interdisciplinary and international teaching and learning in ES, IR and PS. Online audience response tools such as *Wooclap* and collaborative platforms such as Padlet help to enliven the online *and* the in-person classroom. Blending elements of synchronous and asynchronous learning creates opportunities for participation of students who might otherwise be reluctant or unable to contribute to the learning process. For students whose educational background did not value active contributions, engaging in online learning spaces is less scary than asking a question in an in-person setting. The chat in Zoom offers the opportunity to carefully formulate a question or comment and share it without being stared at by other students or by teaching staff.

The videos and podcasts that many of us have been producing during the pandemic also offer important advantages. Students can also listen and watch videos and podcasts at their own pace and whenever suits them best. They can hit pause, rewind, forward—and take notes while listening and watching. For students with caring duties, jobs, and so on, such formats are useful to gain more control over their studies. But audio-visual materials also offer an opportunity to catch up after illness and can form a repository for preparing for exams. Furthermore, they offer a great opportunity to flip the classroom to encourage independent student learning and active participation. These do not have to be professional productions; students also value seeing and hearing their lecturer or tutor in a short video shot with a phone.

Recording and streaming can also be used to bring in different perspectives, from different places, without having to fly in guest speakers. Or you can go on a virtual Brussels trip with your students, like my colleague Paul Stephenson did. In a 2022 he lists several advantages, including getting access to speakers that might normally be unavailable and being able to organise online fringe events in the following days



and weeks (Stephenson 2022). Similarly, in 2021 Simon and I organised a Zoom event for teaching staff and students to discuss what we had learned from teaching and learning online. This created an opportunity to exchange experiences and ideas across borders between people that might normally never meet in ‘real’ life (Bijmans and Lightfoot 2021).

The importance of community and interaction

Blended teaching and learning can give voice to *all* students and create a space for them to learn and exchange views in an active manner. Yet, many experts—including Alexandra in this symposium—have indicated that tools such as the aforementioned ones can be used in the wrong way. One underestimated challenge concerns the limits to community formation and informal interaction. This is, for instance, illustrated in Christina Costa and Huaping Li’s report on international students in British HE during the pandemic, which described how students felt increasingly lonely and disconnected to the university (2022). Yet, social and academic integration of students and staff is important for a productive active, interdisciplinary and international teaching and learning environment.

In an ongoing research project, colleagues and I found that first-year undergrads in a problem-based learning environment are often insecure at first as to what they are learning and how they are learning. However, being in a small-scale active learning environment also offers a chance to meet new friends who can help make this transition. Yet, during the pandemic, community formation and exchanging knowledge and experience became more challenging. Informal coffee chats, discussions and questions became rare, with teaching staff and students entering and leaving Zoom meetings right at starting and ending times. While initially online coffee meetings and so on partly made up for this loss, they gradually were viewed more of a drag than anything else.

One consequence of this was that the social transfer of information regarding the ‘hidden curriculum’ got lost. With this I mean expectations, norms and values that are part of academia, without always being specifically introduced to students. Normally first-year students could ask second-year students about these. Yet, given that students from different years no longer met each other in the corridors, the library or the coffee bar, contact between different cohorts occurred less. And even when first-years were able to contact second-years, the latter had spent most of their time online themselves and did not always know the ins and outs of academia. Students from non-academic backgrounds were even further disadvantaged, given that their parents also could not provide necessary insights. The same goes for international students from countries where academic culture differs from that in (Western) Europe.

In short, there is a need for connection, for community and interaction in HE teaching and learning. Indeed, one of the insights that stuck with me after a recent two-week Erasmus+ visit to the University of Leeds, was presented by Madeleine Pownall et al. (2022). They explained that students have different ideas of what elements to keep after years of pandemic-shaped teaching and learning. Yet, they have a



much more coherent sense of important values that should be part of their academic experience, including opportunities for actively engaging with their peers, and for getting to know and exchange ideas with teaching staff; qualities that we should not overlook while we continue to discuss the future of HE teaching and learning.

Le Bourdon and Pears raise pertinent points about the learning communities being developed and the use of digital technologies towards this end—in particular, they ask the question about students’ positionality in terms of digital literacy and how familiarity with the digital does not necessarily mean understanding. And as was previously mentioned by Mihai’s discussion about designing learning with pedagogy and technology in mind, that understanding of how students are understanding their worlds with connection to digital tech is vital.

Are students already hyflex? Social media, informal learning and critical digital literacies (Madeleine Le Bourdon and Louise Pears)

It might seem banal to point out that students spend a lot of time online, but we suggest that this needs to be centred in our conversations about digital pedagogies and hybrid approaches. Latest statistics suggest 18–24-year-olds in the UK spend slightly over five hours on the internet every day and 79% of 16- and 24-year-olds say social media is their main news source (Ofcom 2022). Our contention is that conversations about hybrid learning in the Politics and International Studies classroom must begin from the recognition that students are already learning online and our engagement with hybrid learning needs to meet students where they are. Or put more simply, all our courses are already hyflex, but where we are only delivering offline then the online component becomes almost entirely self-led by students. We find that if we do not provide a depth and richness to our online offering that guides students’ informal learning and upskills them with critical digital literacies, then we are at the mercy of the YouTube ‘How to’ videos, TikTok length explanations and news sources of the Meta-verse to fill that gap.

Our argument draws on Le Bourdon’s (2022) research that has evidenced the role social media is playing in shaping secondary school students’ understandings of global injustice, through their engagement with lived experience and personal accounts that cut through mainstream knowledge sources. Her work calls for educators to adapt their pedagogical approaches to both embrace and equip students with skills to navigate the ambivalent nature of social media. We recognize the problems inherent in treating social media platforms as though they are neutral environments of information sharing and gathering. Through commercial structures, algorithmic affordance, deliberate interference and an almost completely absent process of moderation and control, social media platforms are also spaces of considerable misinformation, inequality, and danger. Navigating this space as a site of learning is particularly pressing in the Politics and International Studies classroom given social media is often inseparable from global challenges. For many students, social media is a space in which world politics is experienced, shared, challenged, understood, and negotiated.



First, we suggest that social media is a space of informal learning (Le Bourdon 2018). Informal learning exists outside of structured educational spaces where students learn in an exploratory, experiential, and often spontaneous way. For Greenhow and Hughes writing in 2009, these spaces include social media and come to shape our understanding of global challenges. Over ten years later their observations have become only more important as social media use has grown, further exacerbated by the pandemic (indeed one of Le Bourdon's research participants talked about an 18-h day spent entirely online). Therefore, for international studies students today they may be affected by climate politics through Greta Thunberg's tweets, introduced to ideas of institutional racism through the "black out" of their Instagram squares, or exposed to the war in Ukraine through TikTok footage. They are just as likely to have this engagement with global challenges in social media as they are to encounter them in a lecture hall or through course assigned reading. Social media also exists on the fringes of more formal learning, when students go to YouTube to search for short videos that break down the Marxist theory they didn't understand in a lecture, use Discord as a study space to set goals and stay motivated, or have a seminar WhatsApp group to go over readings. Both relationships between social media and the formal classroom shape students learning journeys throughout their degrees. Students are therefore more hyflex than might be recognized by only paying attention to the structure and design of formal learning environments.

Second, we recognize that social media has an ambivalent role in learning and therefore is both a challenge and opportunity for critical pedagogues of politics. Social media is not an unproblematic source of information and connection. It is a space of misinformation, fake news and lies whose veracity is difficult to detect, in which user preference and algorithmic structures can create echo chambers and bubbles that limit its educational potential. At the same time, Le Bourdon's research with teenagers across the UK found they were extremely cautious about trusting information on social media and that they also connected to the lived experience they encountered across social media creating affective learning. Social media therefore acted as a catalyst for further learning and activism. Examples such as this demonstrates how social media offers potential for learning that can be either brought into the classroom not simply to 'enliven' our material, but to foster connection and critical engagement.

Third, whilst we emphasize the need to recognise the existing place of social media in the lives of students, we also acknowledge the risks of casually treating students as 'digital natives' and presuming they are confident in critically engaging with the vast material they are exposed to online. Whilst statistics suggest social media use is huge, this varies across social economic class, nationality, age, and a plethora of other personal and social descriptors. Furthermore, even when a student is a proficient and confident user of social media there is still a need for them to be actively equipped with critical digital literacy. Digital literacy describes the basic skills of navigation and technical competency in an online space. Critical digital literacy also includes the ability to reflect on the content served, understand their own relationship to social media as well as the power structures both contained and sustained within the platforms themselves (Meyer et al. 2013). The developing



scholarship on critical digital literacy needs to be brought into conversation with work on hybrid education.

In conclusion, we should not over-estimate our students' capabilities, but at the same time we should not underestimate their ability to engage critically and carefully. So too, the role and potential of social media to enhance the hybrid falls between the digital utopias of democratised media, free information and netizen activism and the digital dystopias of fake news, conspiracy theories and echo chambers. Therefore, we recommend that a full discussion about hybrid learning cannot only be about how we bring in the digital and online into our teaching provision but must also be about ensuring that our teaching provision can engage with the student who is already learning online. As educators we must acknowledge the role social media plays in shaping understandings of international politics and adapt our pedagogical approaches to both embrace this potential and equip students with skills to navigate the messy world online.

Accepting the reality of social media's existing role in student learning can enable us to think through more authentic delivery of hyflex, capitalising on students' existing familiarity with social media platforms, whilst recognising the divergent levels of digital proficiency that will be encountered. Understanding the ways students might already use social media to aid their learning moves the conversation on from how to offer hybrid education to how to curate their online learning opportunities and empower their informal learning. Drawing on social media as both a site of international politics and an affective site of learning about international politics means that an engagement with social media can enhance the content of our courses. Recognizing that social media can bring international politics to life for our students requires that we provide the tools and guidance to critically reflect on the content they are exposed to and further their critical digital literacy. Ultimately, we suggest that it is only through active collaboration, research, and discussion with our students that we will be able to find ways to capitalise on the pedagogic potential of social media.

In the previous discussions about learning pedagogies and technology, the fostering of learning communities, and of active collaboration with students had been key. Perhaps a good conclusion to this collaborative discussion is Hadjipieris' reflections on putting this into curricula design. The pilot study he presents looks towards the development of active collaboration in design that sees tech at the centre of an evolving management system offering students a new kind of learning environment.

Hyflex course design: exploring student experiences of an equity-centered technology enhanced curriculum. A reflective pilot study (Paul Hadjipieris)

Introduction

As universities return to more in-person classes, instructors offer flexibility for students to attend classes via multiple modalities, such as in-person via video conferencing software or fully asynchronous via learning management systems. This



Hybrid-Flexible (hyflex) (Beatty 2019) approach to teaching¹ offers excellent opportunities for students to continue learning during and beyond the pandemic; however, it is a complex operation for the professor and the instructional teams supporting the class. Moreover, teaching equitably in this modality increases the complexities further.

This pilot study was designed to test the data collection instruments used in my dissertation work. The reflective essay aims to qualitatively explore students' experiences taking a hyflex course with equity-centered design. The potential impact of this pilot study will shed light on what aspects of the hyflex environment helped or hindered students in meeting their learning outcomes, potentially offering key findings for practitioners to design and deliver equitable hyflex courses. The site where data was collected was a large public research-intensive university situated in Southern California in the United States of America. I observed three classes in the department of education, one teacher credentialing undergraduate course, and two graduate qualitative methods courses (Ph.D. and Ed.D). All three courses were being taught via a mixed modality (hyflex) format due to the COVID-19 pandemic. The undergraduate course had twenty-five students enrolled, and the two graduate courses had seventeen (Ph.D.) and nineteen (Ed.D), respectively. All three instructors were experienced social justice educators with K-12 and HE teaching experience. I was interested in examining the experiences of the students who chose to attend their courses in a mixed (hyflex) modality. Why did they choose that modality, and how was their learning experience while attending class? Accordingly, I conducted three ethnographic participant observations and two semi-structured interviews for thirty minutes each. Next, I administered a survey to the students in the three courses. Finally, I created an analytical question design to speak to my data:

- In what ways, if at all, does a hyflex learning modality support equitable learning environments?

Data analysis

Data analysis occurred throughout my whole process, and I refined my area and focus of interest as I was in the process of collecting data. Further, while conducting my interviews, I was curious about why the participants chose to attend in that specific remote modality and what they saw as the strengths and limitations of a hyflex learning environment. Aligned with grounded theory, I was able to analyse emergent themes from the data. I treated both my participant observations, survey, and my

¹ This terminology – ‘hyflex’ is attributed to Brian J. Beatty, who began to use and is considered to have coin the term in relation to teaching and learning, with a conference paper presented in 2006. [Brian J. Beatty, Designing the HyFlex World–Hybrid, Flexible Courses for All Students, Paper presented at the Association for Educational Communications and Technology 2006 Annual International Convention, October 13, 2006.].



interview as a single data corpus and arrived at two primary codes and several sub-codes that I wanted to explore further. I have included these codes below:

Primary code	Flexibility to learn-FTL	Good professor = Good learning Hyflex experience- GPGL
Sub Codes	Working professional—WP	EQ-equity
Sub Codes	Working student with family-WSF	COVID-19 Pandemic
Sub Codes	In-person learning-IPL	Struggle with technology-SWT
Sub Codes	Access and equity-AE	Cohort support-CS
Sub Codes	Technology to support Zoom	Mixed modality works-MMW
Subcode	Barriers to learning-BTL	

Findings

From analysing my corpus of data, the primary codes of interest were Flexibility to Learn-FTL and Good Professor = Good Learning Hyflex Experience-GPGL. Further, the codes of Barriers to Learning-BTL, Access, Equity-AE, and Cohort Support-CS will be used to share my findings for the study. I have used these codes to make some assertions about my findings.

My pilot data suggest that students accessing their hyflex class preferred being in person; however, they appreciate the opportunity to attend despite external factors. On a note about the external factors, it is important here that all the external factors cited by participants were health or family-related and were immovable factors. For example, one participant contracted COVID-19 and was in isolation, while another had childcare arrangements fall through at the very last moment. Further, this flexibility, along with excellent teaching and support from their cohort mates, led to a change of opinion about the efficacy of hyflex learning. Accordingly, I will focus for the purpose of this pilot study on the codes Flexibility to Learn-FTL and Good Professor = Good Learning Hyflex Experience- GPGL.

All participants across the data set noted that they preferred in-person learning over a remote option. I saw themes emerging between my interviews and the survey that focused on the participants' intentional choice to start an in-person program over that of a hybrid or online offering. Further, three participants specifically referenced "learning styles" as why they preferred in-person learning. This did interest me because as I probed further in my interviews, I saw ideas emerging around the quality and user experience of the hyflex environment. For example, my interview subjects, Alison and Sky (pseudonyms), thought the 360 Owl camera (used in the pilot study) allowed them to see and hear the students and professor effectively. Additionally, they both noted that they could follow the discussion more deeply than in other experiences of Zooming into an in-person class.

This point around technology did show up in the survey responses as well. A participant noted, "I did feel included because I like that the device focuses on the speaker, and the panoramic view is great. I can see everyone in class rather than one person in front of the camera. I love the 360 views." Another participant added,



“The 360 view is, in my opinion, a big strength because it allows you to see the whole class and feel included. Dr. X (pseudonym) did a great job including and adding us into the discussion, which also helped.” Conversely, it was clear that barriers to learning existed, specifically for some in the Zoom community who could not hear the students that were a long way from the Owl microphone. A participant from the survey noted, “Also, one thing I thought was interesting is that there were some instances where I could tell something was happening in the classroom. Either side conversation or people were taking longer in groups, etc., but I couldn’t tell exactly what it was/ what was happening.” While this did impact the learning experience of some students in the hyflex environment, all participants in the interview and the survey spoke about how useful it was to have a dedicated person (TA) to support and “fill in the gaps” when a conversation was hard to follow. One survey respondent noted, “Jake (pseudonym), with intention, helped us ask questions, told the professor when we wanted to interject, and Dr. X purposefully asked if any Zoom community had questions. It was clear that we were “there” even though we weren’t physically there.” Another survey respondent reported, “At times, I felt a bit disengaged because I couldn’t hear what a classmate was saying and relied on Jake to summarize in the chat. So, I guess one drawback is missing out on the nuances of in-person learning and interaction”.

A second significant finding that emerged across the data was how important the instructor is in a hyflex environment. From my participant observations, I observed several evidenced-based practices that drew the Zoom community into the in-person learning environment. For example, the professor set up break-out rooms in Zoom and asked the in-person students to log into zoom and discuss prompts with their Zoom group mates. These affinity groups had already been pre-arranged and kept the groups together in all modalities. While this point did not emerge in the interviews and the survey, I did observe rich conversations between the Zoom community and in-person students. Further, an interesting comment from a participant in the survey revealed how having a critical mass of students on Zoom made it “more comfortable” to remote into class. This is an interesting point that is worth digging into deeper in further interviews. I wrote a note to myself to design questions to explore the norms around a hyflex classroom; this could be key to increasing a sense of belonging in a hybridized space. Findings from the interviews spoke directly to the importance of having a professor that is comfortable and deft at managing multiple modalities of learning. This was an exciting point and is supported across the literature that principles of effective teaching in HE can be transferable in hybrid learning environments (Abdelmalak and Parra 2016; Ambrose 2010; Bain 2004; Bratberg et al. 2021; Chickering and Gamson 1989).

Summary

In summary, the finding posits that students have a preference for in-person learning over Hyflex instruction. However, there was an overwhelming appreciation for the option to attend class in the hyflex modality. Furthermore, the students commented that the learning environment, while not as optimal as being there in person,



was still of a high enough quality that they reported a good learning experience. For example, a comment from the survey suggested,

Hyflexing will never really replace an in-person experience, but it is a close substitute. I think it is up to the individual to make the best of the situation. If you really put the effort in, you will enjoy the experience. The 360 view is, in my opinion, a big strength because it allows you to see the whole class and feel included. Dr. X did a great job including us and adding us to the discussion, which also helped.

Another interesting finding was how opinions around hyflex learning changed over time. Alison, who reported struggling with using technology in her learning, reported that with support and practice, she has become more comfortable and appreciated the flexibility it brings to her life as a full-time principal, mother, and doctoral student.

The role of the professor and teaching assistant appears to be vital for successful learning for the students who remote into the classroom. Also, technology such as Zoom and an Owl camera, and high-speed internet are prerequisites for a high-quality learning experience. A theme that came up as an outlier comment, but one that I am most interested in exploring further, is that of having a critical mass of students who are remoting into class. Finally, from my classroom observations, I noticed that when the Zoom community was active on the chat and unmuting and speaking out using the Owl, others followed. This could be useful for professors designing a hyflex environment to set the norms of all learning modalities and help students feel comfortable in these learning spaces.

Concluding remarks (Simon Lightfoot and Dale Mineshima-Lowe)

The pandemic turbo boosted developments in the use of digital resources in teaching and learning and post-pandemic, we find that technology and the use of digital sources has become fully ingrained within teaching and learning. This inclusion is not without issues as it does raise some key questions. Circling back to some of the key points raised during the original conference roundtable and here in the contributions shared above, we find that underlying pedagogical and pragmatic considerations still need reconsidering about digital tech in HE. These considerations range from contrasting the institutional strategies about digital tech in learning, whether institutions have the physical and digital estate to support these strategies to the review of pedagogical reasons for returning to a face-to-face (f2f) over hybrid or hyflex modalities (e.g., some of the problem-based learning that doesn't work as well as hyflex or hybrid), to staff and students' voices in creating collaborative learning environments.

Other points touched on in some of the contributions, but was also raised from the roundtable itself, had been how to manage issues of well-being for students and staff (the issue of engagement versus attendance), and the "reintegration" of both into the academy in the post-pandemic period—are the newly developing strategies privileging some students (and staff) over others depending on whether



face-to-face, online or a mix of these are implemented? How can we ensure flexibility in delivery for students whilst also ensuring pedagogic foundations are not undermined? What is worrying is that we build in student flexibility but then the plans for the session as created by staff collapse if people don't show up. Do we need to have 3 session plans-f2f; online or hybrid for each session? Is there sustainability for such changes implemented? What is clear is that there are many more discussions to be had, and reflections to be incorporated, to ensure inclusivity of various groups' experiences and expectations going forward. While technologies offer the opportunity to reimagine HE learning for students with 'flexibility', one wonders about how such flexibility will impact academics, support staff, and the academy as a whole? To begin to address these complex issues, we hope that the multi-perspective approach as provided by the contributors here proves useful for future discourse and practices of hyflex and hybrid in HE learning.

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Dale Mineshima-Lowe is an Associate Lecturer in the School of Social Sciences and Academic Co-Director for Environmental Projects at Birkbeck, University of London. She is Managing Editor for the DC-based think tank-Center of International Relations, an OSUN-CLASP Fellow (2021–2023), a member of the ECPR Teaching & Learning Politics Standing Group Steering Committee (2020–2023), and Visiting Faculty at both Parami University (USA & Myanmar) and Bard College (NY, USA). In the upcoming year, Dale will be part of an international consortium starting work on a new 3-year project (2023–2026) focused on ‘Democratizing Globalization’, organised by the OSUN-Hannah Arendt Humanities Network and Bard College Berlin (Germany).

Alexandra Mihai is Assistant Professor of Innovation in Higher Education in the Department of Educational Research and Development, School of Business and Economics, Maastricht University. Previously she worked as Learning Designer at University College London (UCL), Curriculum Designer at the Institute of European Studies, Vrije Universiteit Brussel (VUB) and led the Centre for Teaching Innovations at the Hertie School of Governance in Berlin. Alexandra has a strong background in e-learning, learning design and innovative teaching strategies. In her PhD she analyzed in how far technology is used in teaching practices at European universities.

Madeleine Le Bourdon is an Associate Professor in the School of Politics and International Studies where she is the co-Director of the Centre for Teaching Innovation and Scholarship, and Programme Director for International Development BA (hons). Madeleine’s research critically reflects on pedagogical and methodological approaches which frame how we understand development and global social justice issues. In particular, the role of reflexive practices in challenging privilege and positionality in the field. Alongside her University role, Madeleine is the co-host of the podcast ‘Politics and Pedagogy’, a co-editor at the International Journal for Development Education and Global Learning, trustee of the charity Diversity in Development and sits on the board for the Academic Network for Global Education and Learning.

Louise Pears is a Lecturer in Global Security Challenges at Leeds University. She is co-director of the Centre for Teaching Innovation and Scholarship and co-host of the podcast Politics and Pedagogy. Teaching is at the centre of her work and she is particularly interested in critical and feminist pedagogies. She researches and teaches on Feminist Security Studies, Popular Culture and World Politics, Race and Postcolonial International Relations, Critical Terrorism Studies and Research Methods. What underlies all these areas is an interest in ‘the margins, silences and bottom rungs’ (Enloe, 1996) of International Relations.

Patrick Bijsmans is Associate Professor in Teaching & Learning European Studies and Associate Dean for Education at Maastricht University’s Faculty of Arts and Social Sciences. His research interests include active learning in the international classroom, curriculum design and alignment, and media and Euroscepticism. Patrick’s research appears in Higher Education, the Journal of Common Market Studies, and other journals and edited volumes. Website: <http://patrickbijsmans.weebly.com>.

Paul Hadjipieris is an Education Specialist with the Engaged Teaching Team at UC San Diego, California, USA and Doctoral Candidate examining the effectiveness of Hyflex courses. Paul is actively involved



in several international Scholarship of Teaching and Learning projects, with a particular focus on investigating the use of virtual and augmented reality in instructional design. His recent work on teaching and learning practices in HE include Baghdadchi, S., Nemerever, Z., Hadjipieris, P. A., Serslev, S. G., & Sandoval, C. L. (2019). Creating Environments for Critical Thinking: Building Upon Multiple Choice Problems in Electrical Engineering Education. 17, and Simpson, J., Hadjipieris, P., Ghanbari, S., & Hargis, J. (2018). Measuring effectiveness of formative assessment on students' engagement and motivation for learning. *Journal of Language, Learning and Technology*.

Simon Lightfoot is Pro-Dean for Student Education and Professor of Politics at the University of Leeds, U.K.

Authors and Affiliations

Dale Mineshima-Lowe¹ · Alexandra Mihai² · Madeleine Le Bourdon⁴ · Louise Pears⁵ · Patrick Bijsmans³  · Paul Hadjipieris⁶ · Simon Lightfoot⁵

✉ Dale Mineshima-Lowe
d.mineshima-lowebk.ac.uk

Alexandra Mihai
a.mihai@maastrichtuniversity.nl

Madeleine Le Bourdon
m.lebourdon@leeds.ac.uk

Louise Pears
l.k.pears@leeds.ac.uk

Patrick Bijsmans
patrick.bijsmans@maastrichtuniversity.nl

Paul Hadjipieris
phadjipieris@ucsd.edu

Simon Lightfoot
s.j.lightfoot@leeds.ac.uk

¹ School of Social Sciences, Birkbeck, University of London, 10 Gower Street, London WC1E 6HJ, UK

² School of Business and Economics, Educational Research and Development, Maastricht University, Maastricht, The Netherlands

³ Faculty of Arts and Social Sciences, Political Science, Maastricht University, Maastricht, The Netherlands

⁴ Centre for Teaching Scholarship and Innovation, University of Leeds, Leeds, UK

⁵ University of Leeds, Leeds, UK

⁶ UC San Diego, San Diego, CA, USA

