

## Higher education futures?

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# HIGHER EDUCATION FUTURES?

## REFLECTIONS ON COVID-19, DIGITALIZATION, AND GEN Z EXPECTATIONS

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Figure 1 - "Lecturing to images from the kitchen table"  
Source: Author

### 1. Introduction

Predicting the future is a difficult and inexact business and, generally, humans are more prone to focus on immediate problems and short-term problem-solving rather than long-range planning. In fact, long-range forecasts are tricky and often rendered wrong due to catalytic events. The dramatic changes in teaching, learning, and conducting research that have seemingly catapulted Higher Education (HE) institutions into a new modus operandi over the past 24 months are a case in point. Who would have predicted that higher education would be conducted by a great many institutions almost entirely virtually and over sustained amounts of time? That academics would teach from their homes lecturing to a screen of black boxes and images? That students would do fieldwork virtually via video, embedded questions and tasks, and that the practice of research teams discussing progress and findings in person would practically vanish?

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As we enter a third year of the pandemic with yet another variant of the virus, Omicron, and a consequent surge in infection rates, it may be valuable to step back and draw on a wider picture. What shape might HE take in the future? How does virtualization impact on learning and teaching and how might other university activities be affected by these trends? A raft of special journal issues and scholarly work is testament to the fact that many academics are trying to digest and get to grips with the changes that the COVID-19 pandemic continues to force upon educational practices as well as practically all other aspects of how we live our lives and conduct business.

The pandemic's impact on teaching, learning, and research has no doubt been stark in many different ways, and, as such, is likely to veil trends and developments already underway since before COVID-19 restrictions were introduced from January 2020 onwards in most countries around the globe. Nevertheless, either one, and certainly together, these developments have the potential to substantially transform HE and its prevalent pedagogical and operational models. Take, for example, the silent but ongoing growth and promotion of postmodern pedagogies supporting learner empowerment which acknowledge multiple forms of truths (Rosenau 1992) and encourage greater flexibility of curricular choice (e.g., Lamb and Vodicka 2021); or the digitalization of HE replete with MOOCs, virtual learning platforms and micro-credentials (Evans-Cowley 2018; Tesar 2020; Barn 2020). At the same time, we notice growing racism and nationalism with implications for internationalization in HE (de Wit and Altbach 2020), as well as calls for more explicit engagement of universities with society (e.g., Barnett 2011) and industry partners. Focusing on training and educational delivery, García-Morales, Garrido-Moreno and Martín-Rojas (2021), for example, suggest that the crisis invoked by COVID-19 has brought the challenges and barriers around online learning into sharper view while digitalization in HE has gained greater attention and momentum.

This paper, then, seeks to bring together various strands of thought on the future shape of HE as strong arguments are made by national governments for the value of, and a return to, the traditional (pre-pandemic) modes of pedagogies (i.e., face-2-face teaching). The reflections were triggered initially by discussions with colleagues and scenarios drawn-up in the press of a post-COVID world (in education and beyond). Along the way, it became clear that other (disruptive) trends such as student expectations, technological advances, and internationalization and globalization may play roles in what futures may emerge and take hold. In particular, ideas focus on education and training in the field of spatial planning; they are subjective and personal, and still taking shape. Beyond some general scholarship on future forms and models for HE, reflections draw on:

1. experiences and lessons learned from online teaching and what seemed to work and not in spatial planning education and related subjects (e.g., human geography, urban design etc.);
2. discussions on the future mix of online and face-2-face teaching by university management and vanguard thinkers; and
3. student statements on the expectations of young adult learners (generation z) regarding educational formats and delivery.

This paper is structured around the perspectives of three key agents involved in the HE learning process, or ecosystem, to draw on Barnett's (2011) terminology: (a) Educators/Professors, (b) the institutions (universities), and (c) the learners/students. The order by which they are presented is random and does not indicate any ranking or hierarchy.

## 2. Spatial Planning Educators' Perspectives

Estimates by UNESCO suggest that the learning experience of over 1000 million learners in HE world-wide was affected by the closure of HE Institutions in 185 countries in April 2020 (Marinoni et al., 2020). Similarly, the teaching experience of millions of educators also changed. As the pandemic unfolded from March 2020 to December 2021 (and counting) – HE institutions put in place “emergency online education” driven by the need and desire to continue education provision while adhering to the physical distancing stipulated by most national governments. According to a survey by the International Association of Universities (IAU) from April 2020, 85% of responding institutions shifted classroom teaching to online mode (Marinoni et al. 2020). This in turn saw academics learn (not necessarily master) the art of teaching online. Academics worked tirelessly (see e.g., Kunzmann 2021), supported by IT staff and education development experts to adapt materials and

teaching approaches as best as possible, and institutions purchased new software licenses to facilitate online processes and collaboration after weeks rather than months or years of deliberation.

The achievement of shifting to online/distance-learning modes, more or less overnight, is remarkable. It illustrates what academia was and is capable of and represents a massive boost to the digitalization of learning in HE. The use of pre-recorded as well as synchronous live lectures or discussions conducted online became a common feature in this emergency. It demonstrated that online approaches can, to some degree, replace what lectures, small group seminars, one-to-one supervisory, or tutor meetings have traditionally offered. Although stressful and unfamiliar, the forced wholesale virtualization has worked in a good number of cases surprisingly better than expected; even in spatial planning education. Perhaps, this should not be such a surprise. Albeit the exception rather than the norm, there already exist spatial planning degrees which are entirely and successfully delivered online (Evans-Cowley 2018).

However, it must be stressed that the educational experience online is not the same as that based in a classroom. A (simple) shift from face-2-face to virtual teaching may be easier and works better for certain subjects and learning tasks than others (Mironowicz and Schretzenmayr 2020; Marinoni et al. 2020). Curricula and modules in online programs are specifically designed for this style of delivery and learning. In contrast, programmes traditionally taught in person are not. In the case of the pandemic, this meant that the delivery of (inter-)active learning activities common for spatial planning education required rethinking and adaptation. How can we re-create discussion enabled via in-class exercises, workshops, and ad hoc groupwork activities that gain momentum from presence in shared physical spaces? The presence and connectivity with the teacher and others which is important for learning is difficult to establish in virtual space and, as a result, social learning processes were starkly curtailed. Based on student feedback, online live (synchronous) lectures offer a comparatively superior experience and were preferred to pre-recorded material by learners as it created opportunities for immediate interactions with the speaker as well as peers. It also offered a schedule and structure for the days and weeks of the semester that many felt to be useful. Moreover, the synchronous interaction with students gives teachers an opportunity to check comprehension and re-explain concepts found to be unclear – at least in theory. In practice this was often hampered as students remained ‘invisible’ by choice or lack of access to bandwidth or equipment. This made it difficult to judge levels of understanding and actual presence (Figure 1).

The ubiquitous availability of suitably fast and stable internet, or rather the lack thereof, and unavailable equipment such as screen cameras were a key constraint in what could be delivered in practice. This created stark inequalities in student learning experiences across localities. Limited IT and network capacities did curb the ability of institutions to offer synchronous live streaming of lectures while in others, such as the UK and Switzerland for example, live-lectures were offered in parallel to pre-recorded materials.

Although Stepper (2021) highlighted the temporal and spatial flexibility that online modes created for all involved – workloads for educators generally increased. This resulted not only from their need to acquire online teaching skills, but also from having to develop new materials. For example, government-imposed lockdown restrictions meant that off-campus learning activities were prohibited and therefore replacements or surrogates for site visits and the like, which are essential in spatial planning and built environment disciplines, had to be developed. Creating new resources, such as virtual study trips, takes time. Readily available material including Google maps and street view are not necessarily suitable as they can be out of date in fast changing urban development areas. To overcome this, some educators created and narrated videos (see e.g., Mironowicz and Schretzenmayr 2020). Feedback from students on the usefulness of virtual field work and site visits is still sparse; the little that is available provides a mixed picture as to their effectiveness in understanding a development site. The notion is that this was “better than nothing”, but students indicated that the material generally failed to convey size, scale, and the feel of a space. Whether in future - technology (e.g., augmented reality, camera drones, and so on) might enable more realistic experiences is an issue that will have to be explored. Thus far there seems to be agreement that these kinds of learning activities should be held in person rather than virtually.

Difficulties in adapting and challenges were also experienced in the delivery of design studios and group work. Greater understanding and learning seem to emerge from physically drawing lines, or adding to a sketch in

person, while explaining the rationale of suggested amendments. The technology exists to do this online via screen sharing, but this was certainly limited to better endowed institutions and their educators and students – where the institutions provided the requisite tablets and software to all who needed them (Marinoni et al 2020). Introductory design skills and competencies were particularly difficult to convey in remote learning settings.

As for group working, what emerged was that the technology savvy social media generation required considerable guidance in how to work collaboratively in an online, remote environment. Students practically growing up with platforms such as Facebook, Instagram, Twitter, and WhatsApp were unable to recognize the shortfalls of such tools for formal, structured teamwork. They needed coaching and encouragement to use Zoom, MS Teams, and similar platforms to collaborate, and share documents and resources for projects in a professional manner. Issues that normally create tensions and problems in group work were equally present in the virtual environment including differences in working styles and communication.

On the plus side, the new online modes also created new opportunities which were quickly recognised. Teaching remotely may enable individuals to reduce commuting times and costs, although physically separating work and non-work life also brings benefits. The new modes can clearly serve as equalisers of opportunity for students and staff with mobility issues who found it easier to participate in learning activities from home. Another substantial benefit was that it became far easier (cheaper and more sustainable) to get experts from far flung places to join an academic panel or give a guest lecture. The guest speaker did not have to travel, there was no need to apply for institutional funds to cover travel and subsistence, and the carbon-footprint became far smaller. Similarly, as congresses and academic conferences were moved online (Cermeno and Baldewein 2020), these networking and learning opportunities became accessible to larger numbers of budding academics and doctoral students as no travel, overnight stays, or associated costs were accrued. Finally, some students found recorded material helpful for their learning as they could review things multiple times, and study at their own pace.

### 3. Institutional Perspectives

While there were various degrees of existing digitalization in higher education mostly via educational platforms (Moodle, Blackboard, Canvas etc.) which functioned as data repositories, managed assignment submissions including marking and feedback, and supported independent learning in the form of activities such as tests; more active uses of digital technology for teaching remained the exception rather than the rule. Educators have sought to use blogging, discussion forums, and similar approaches for nearly 2 decades but they have generally not been mainstream elements in HE teaching. Other approaches have also been trialled such as Just-In-Time-Teaching (JITT) supported by teaching innovation grants (Grimm and Sinnig 2021). The pandemic has certainly sped up innovations in this area, and scholars believe that many of them will probably remain part of HE provision, albeit in moderated and refined form. Morales et al (2021) report based on a survey of institutions in the European Higher Education Area (EUA, 2020) that three quarters of responding institutions plan to enhance their digital capacity, and that 92% want to explore new ways of teaching.

Given that institutions have invested considerable amounts of time and money into the digitalization of programme provision – they are likely to seek to reap some (financial) return from their investments. Generally, labour costs are the main expense in HE, followed by estates. Space, i.e., buildings are expensive assets, and teaching rooms in many institutions are in short supply. Remote provision and academics working from home at least part of the time could help reduce space pressure and could also be beneficial for institutions which offer programmes at spatially disparate campuses. Hot-desking and sharing offices could significantly reduce demand, whilst streaming lectures and holding seminars remotely will lower pressure to accommodate activities in physical rooms.

There have also been suggestions that pre-recorded lectures could be re-used thereby freeing academics' time to engage in research, community engagement, or other student support rather than preparing and holding lectures in person – although there are legitimate counterarguments here. These include, practically, that not all skills can be effectively taught at a distance, and ethically, how would research-led institutions



justify the re-use of lecture materials especially in advanced level modules when research findings should be informing the content of modules? Moreover, in fields such as urban and regional planning where legislation and policies change frequently, re-using old content is considered to be unviable and to reduce students' employability. In sum, there may be opportunities for re-using material but realistically this is most likely to be the case with introductory lectures where there is little need for change. The approach, however, remains at odds with the fact that pre-recorded material for self-study starkly limits opportunities for interaction, and this is emerging as an important element in the learning and knowledge construction process. This creates an obvious dilemma: while basic material for starting semesters may require the least in terms of updating, it is at the start of their university studies that students appear to have suffered most from a lack of in person interaction with educators and their peers. For example, Alibudbud (2021), and Lischer, Safi, and Dickson (2021) recount that the forced online learning during the pandemic has impacted negatively on students increasing stress, anxiety, and absenteeism. The need to use new technology skills, issues of productivity, and information overload affected students from lower socio-economic backgrounds disproportionately as their limited financial capacity increased pressures to access gadgets and internet connectivity (Alibudbud 2021).

Given physical distancing needs, classical examinations in particular had to be replaced by various forms of alternative assessments, including open book exams. At an institutional level, this meant that new standards and protocols had to be developed that offered consistency as well as ensuring authenticity and preventing unfair practice (as far as possible) with students being in remote settings. Many assessment techniques used in spatial planning education such as oral presentations could be transferred reasonably well into a synchronous online environment and it seems, overall, that the use of formative feedback and self-administered online tests increased. An overall more diverse set of assessment approaches is certainly a positive effect as different formats suit different students and can thus help equalise performance.

Even pre-pandemic many institutions had strategic plans to expand digitalisation in their institution, and early discussions in teaching and pedagogy circles viewed the advances made during the pandemic in teaching technology as an opportunity to fundamentally rethink pedagogies and education provision in HE. Opportunities were seen in hybrid, and blended learning, that mix in-person and virtual learning in a more balanced manner. So, while in pre-pandemic times, 80-90% of the traditional university teaching was in person with 10-20% online material, this was flipped during the height of the pandemic (Figure 2a, 2b). With a gradual return to face-2-face teaching, a new ideal was envisioned that would see online and in-person teaching and learning elements complement rather than replace each other (Figure 2c). For instance, technology to enable virtual and in-person teaching at the same time exists and has the potential to create a more inclusive learning environment bringing together students from different parts of the world in a virtual session, or enabling students unable to travel to campus (illness, disability) to partake in on-campus teaching.

Ideally, teaching and learning, online and face-2-face would be closely integrated and collaborative in a postmodern sense, with teachers and learners exploring and learning together. This could truly simulate (current and future) working conditions in practice. For example, students could direct others who wear body cameras on site visits (possibly enhanced by augmented reality) and share this experience. Or, they could practise working like consulting firms with partners in different countries exchanging plans, organising virtual project meetings etc. Here, new areas of research would open by measuring and comparing virtual and in-person experiences, effectiveness and much more.

Interestingly, there has been considerable push-back about 12-18 month into the pandemic against the continuation of (only) online, virtual teaching. Both governments and dissatisfied students demanded a return to in person teaching and as much face-2-face contact time as possible, following 3 semesters of almost exclusive online education. And as valuable and desirable as it may be that teaching does not entirely revert to the pre-pandemic state and that the advancements in online teaching and learning are built upon and its benefits not overlooked, at the time of writing institutions have largely complied focusing again on in-person teaching while limiting parallel online provision based on resource and logistical grounds. Discussions on how to creatively combine online and in-person education have largely gone quiet in a workforce exhausted by the efforts of the past 24 months.

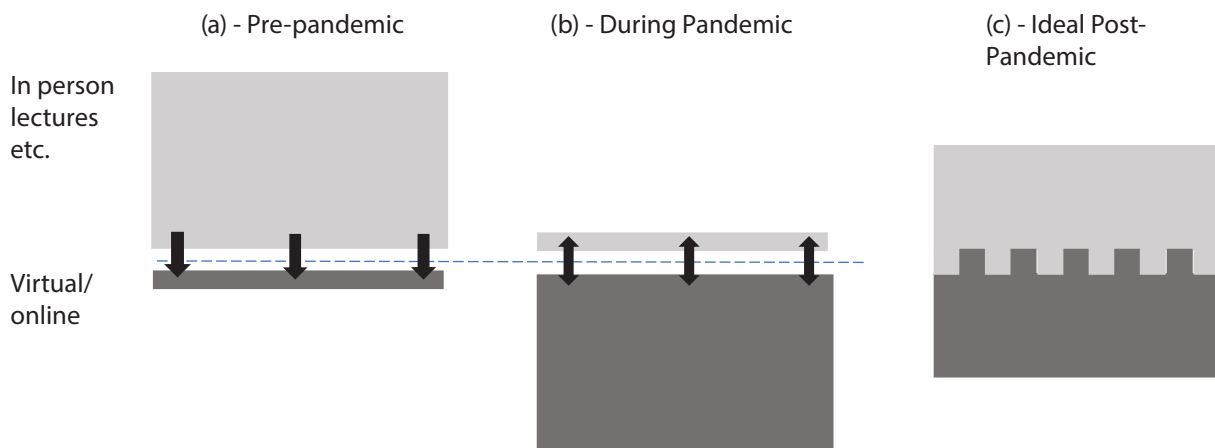


Figure 2 - Teaching Modes in "traditional" University: Pre-pandemic (a), Pandemic (b), and Ideal Post-Pandemic? (c)

#### 4. Student and Learners' Perspective

Students currently enrolled in higher education belong to either the latter years of so-called Generation Y (also known as "Millennials") – born between 1981 and 1996, or to Generation Z (born between 1997-2012), which makes up the majority of the student cohort studying in HE in 2021/22. Generation Z is the first generation that grew up more or less entirely immersed in a digital world expecting ubiquitous availability of WiFi and internet access. It is the generation of "digital natives" (e.g., Riederle 2013) who effortlessly switch between virtual and real worlds. It is also a generation caricatured as "constantly clicking", said to be attached to their smartphones (more than cars!), and connected if not addicted to the internet and social media (Dolot 2018). In terms of knowledge acquisition, research by Chicca and Shellenbarger (2018) reveals a preference for practical information which appears relevant to a particular task. This is in line with a classification as self-learners and entrepreneurs. As learning modus - visually based material is preferred over reading (Vizcaya-Moreno and Perez-Canaveras 2020) including online tutorials or videos, interactive gaming, and virtual learning environments. Given these leanings, one could suspect that students of this generation may adapt to the online, remote learning environment rather easily, or even embrace it, if the teaching material is suitably adapted with a mix of lectures, video, seminar, and interactive exercises.

As always, one has to be wary of overgeneralization. Personal experience and discussions with colleagues, show that students have markedly different preferences. Individual learning styles, expectations, and personal situations matter. A few students who dislike teamwork expressed open satisfaction with the new modus operandi as it enables them to pursue a more individualistic learning approach. However, most students enrolled in traditional programmes had not chosen a distance-learning type education and were consequently disappointed by the remote learning experience. In fact, they expressed a strong preference for face-2-face interaction and longed for a return to the classroom. It's clear that studying at a university campus does provide more than an opportunity to study and expand one's knowledge and professional skills. It means meeting others and expanding one's social circle and developing a network of friends. Knowledge production and learning is a social and community-based activity. First year undergraduates especially were looking forward to making new friends. Yet, without being able to get to meet and know others, the study experience became an unexpected isolated one with many students struggling to focus, remain motivated or even suffering mental health issues (Alibudbud 2021; Lischer et al 2021). As such, many Bachelor students expressed a preference for face-2-face teaching, as this offered structure and organization to the day and week – even though they had to wear masks. Students who had progressed to advanced levels of their programme often had a circle of friends and peers who they knew well enough to continue to work and socialize online (at least for a limited period of time).

On the positive side, part-time master students, especially, those who had longer commutes quickly identified merits in online teaching as it saved on travel expenses and eliminated commuting. Yet, they also

acknowledged the value of spending a day on campus as giving them a useful separation from their normal work environment. Some also commented that working in groups around a table offered something that was hard to replicate with the collaboration software made available to them to facilitate collaborative learning.

Over the last few months, in fact, relevant research on the value of working or learning, making decisions, and navigating the world as a group in relatively close physical proximity has been re-visited. The chance encounter, the word or opinion from another student – perhaps only picked up in passing – can trigger new thoughts and ideas. Gossip and exchanges over coffee and lunch, often only marginally related to a certain problem can prove valuable to learning and knowledge acquisition. These incidences of intangible knowledge acquisition are difficult to replicate online where spontaneity is hardly possible due to the need to plan and pre-schedule meetings and activities (Tett 2021), although some software options that offer this are emerging. Nevertheless, there remain the technical issues of bandwidth and WiFi access.

And while we all had to learn how to work remotely and use new tools, it became clear that the digital natives might have expert knowledge on how to use Instagram, Twitter, Facebook and Snapchat etc. – but they still had little experience on how to manage their time, or organise projects. Self-learning in that respect seems to be less successful as corroborated by a presentation by Philipp Riederle ([www.riederle.de](http://www.riederle.de)) for a *Teaching Awayday* at the University of Applied Science in Stuttgart, Germany. While the 26-year old Philipp suggested that his generation would relish access to MOOCs and greater freedom to choose courses for their own development (rather than following a prescribed and designed programme of study in a particular discipline or field), he acknowledged a need for coaching students on the practicalities of research and studying. Choice and a focus on practical aspects to successfully complete a project might befit the attitude of Gen Z students, yet, how can a rounded knowledge acquisition be ensured that encapsulates not merely popular thoughts and technologies but also alternatives and critical voices? This is particularly crucial as knowledge is regrouped by search engines with the frequency of access intimating relevance and best fit. Moreover, how do learners know what they don't know?

Another suggestion – such as learning from the “best” in the field and thereby reducing the number of educators giving lectures on a particular topic and freeing others to do “other” things sounds like an economic optimization strategy that could play into the hands of institutions and governments seeking to reduce costs of HE. It would mean online only access to these stars (at least for the majority) and one wonders if this might reduce resilience in the system and lead to an impoverishment of thoughts and ideas that might ultimately have a negative impact on innovation and change. On the one hand, star researchers might not be the best educators and vice versa and on the other, what if any one of these stars propagates authoritarian ideas? Nature is incredibly diverse and often – species and developments that appear less competitive and dominant – play a valuable role in keeping the ecosystem running. Finally – while many students have expressed a desire to return to in person education – some students, including those with intermittent health issues, or those unable to travel due to various international travel restrictions, or family issues, have voiced a desire to continue with remote learning.

## 5. Possible Futures for Teaching and Learning in HE

In closing, what might all this mean for HE institutions and the approaches that could be taken for teaching and learning in the future? Although this paper focuses on spatial planning, urban design and other related fields, some of its thoughts might also apply more generally. Broadly, several themes are emerging.

**First**, there are certain learning outcomes that are better achieved through in-person interactions and teaching – such as initial design instruction, or systematic analysis of development sites and vanguard projects. There is also a lot of construction of knowledge and valuable professional network initiation from intangible class-room based communities of learners and spontaneous mingling in person whose role in the personal development of graduates should not be underestimated. **Second**, there are unique opportunities that remote/online education offers such as more sustainable international collaboration and “bringing in” guest speakers and specialists or attending conferences; there is a potential here to enhance inclusivity. **Third**, institutions have invested a lot in the digitalization of HE teaching and learning, and are therefore exploring options to



economize on further employing such modes in one or another manner. **Fourth**, students (particularly from Gen Z) are longing for more practice-based, visual learning experiences which can immediately be related to projects or problems (i.e., problem-based learning). They are also keen to have more flexibility and choice to select their own learning path as well as a willingness to embrace online modes, with webinars and online lectures especially if these are provided by internationally known academics.

So, in response to themes one, two and four, HE institutions could decide to re-shape their programmes to be more flexible in terms of delivery modes as well as in terms of interdisciplinarity of subject choice/combinations.

#### *a. Fuzzier boundaries in delivery modes*

In the past, a fairly strict distinction existed between on-campus/residential programmes and remote/distance-learning programmes delivered nowadays predominantly online. In future, institutions may choose to soften these boundaries. Programmes that are being delivered in parallel online and in-person with some interaction between participants from both groups may become the gold standard in the future. This may include creative hybrid blends that offer some teaching online but also have blocks of teaching in residence. Additionally, a more flexible approach and fluid boundaries between part-time and full-time programmes can also be envisioned. A modular approach where students can flexibly enrol in a degree programme over a longer time, taking only a single module one semester, but a full load another used to be a valid possibility prior to the reforms that sought to create a common European Higher Education Area (Bologna 1999), but is now significantly hampered by regulations aimed to curb overly long student enrolment. A pay by credit approach instead of by semester (already available in the USA for example) may increase uptake by non-traditional students as flexibility and learning pace could be adjusted to individual learner's needs. Naturally – a drawback could be that students may struggle to complete their degrees at all as a consequence of being drawn away by work and other issues.

Nevertheless, for built environment/spatial planning degrees, the learning of certain topics and skills will likely remain, or return to, the in-person mode. It is quite certain that some institutions will excel in developing novel and innovative ways of creating collaborative learning environments by intertwining online and in-person experiences around new concepts. The most vanguard institutions will employ technology creatively to a) make education more inclusive and b) prepare students for new working models that have emerged in response to COVID19 in employment and practice – including extensive online collaboration, remote/online-diagnoses/analyses, and coaching and networking.

Flexible modes of delivery have helped international students to start or complete their degrees as their travel plans were disrupted by COVID restrictions. Given issues of, at times, hostile visa policies and racism as well as worries about sustainability and long-distance travel – one wonders whether the trend of students seeking to part-take in studies at overseas institutions remotely will continue in the future? This would change the meaning of “studying” abroad – i.e., significantly reducing the learning of cultural and social aspects over favouring access to international scholars and “expert”. Given the contextual nature of spatial planning – this could prove problematic in a variety of ways including access to professional societies via accredited degrees.

#### *b. Fuzzier boundaries in terms of subjects/field of study*

Spatial planning from early on has been categorized as inter- or multidisciplinary (Schuster 1950), for example, between social and political sciences, engineering, landscape architecture, and urban design and architecture (e.g., Manley and Parnaby 2000). Spatial planners may also benefit from greater understanding of public health (e.g., Ford 1981), computer science and data management, biology and ecology. A completely open study programme may, however, be counterproductive and lead to a low level of understanding of a range of subjects without any real depth. Yet, greater choice and exploration of topics – particularly at more advanced levels of studies – should be encouraged. Fewer prescribed core modules and greater freedom stands in contrast to efforts from some scholars to define the discipline of spatial planning (e.g., Friedmann 1996). In some systems this will require re-negotiating accreditation requirements with government ministries and professional bodies, and there is a risk that professional accreditation of programmes may be lost. Key will be having students justify and reflect constructively on their choices and how these help them solve societal challenges.

### c. *Strengthening learning community and capacity for independent learning*

As was admitted by Riederle (2021), students require support in the form of tutoring and coaching as it provides a sounding board, and assistance in reflecting on the consequences of different learning choices. There is a need to develop social skills as well as online working skills; trust and friendships are key and are easier to acquire in face-2-face settings. It is also likely that students in the future may require specialised support outside of their programme of study; this exists in some universities but is not a ubiquitous offer at present. Students, once they grow more confident, socially and with regards to their future plans, may be given the options to choose their study modus and subject fields.

One thing about the future is that it is not predetermined or faith, but through the choices we make – the future is shaped. In an age of uncertainty and supercomplexity (Barnett 2004), how and what we learn needs to change to enable future generations of students to cope effectively and to negotiate their contributions to society. The pandemic has shown that we cannot rely on previously developed solutions. If academics want to shape the future of HE, teaching, and learning – a retraction to the pre-pandemic modus operandi will offer little more than preserving prior structures with all their issues around equality, diversity, and inclusivity. The pandemic has opened small windows of opportunities and it will take joint reflections and constructive dialogue between learners, educators, and institutional representatives to shape more innovative institutions which can serve a sustainable society. Let's not waste this opportunity to innovate.

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