17. 'RETURNING TO NORMAL?': BOURDIEU, SYSTEMS THINKING, AND ONLINE TEACHING POST-COVID-19

Anthony Richardson

Abstract

The COVID-19 pandemic and resultant transition to online teaching was a profound shock for universities and their stakeholders (teachers, students, and administrators). Bourdieu's concept of hysteresis (systemic rupture) describes how such disruptions provide an opportunity to question and potentially reshape elements of our collective social reality. However, his work also explores how our shared sense of what is 'normal' tends to be deeply ingrained and resistant to change.

As the pandemic fades into the background of our collective memory, many tertiary teachers may be tempted to view tertiary learning as a rubber ball which can simply bounce back to 'the way things were'. But the Complex Adaptive Systems (CAS) which underpin our social reality do not behave like rubber balls. The Panarchy (Adaptive Cycle) heuristic offers a useful lens for understanding how the resilience of such systems lies in

their ability to adapt when faced with challenges like the pandemic. Such disruptions can ripple through interconnected parts of the system, leading to changes which persist even after the initial crisis has passed. Such systems do not 'bounce back' unchanged after such shocks.

The longing to return to pre-pandemic norms in university teaching is both personally understandable and sociologically explicable by reference to Bourdieu's concepts of habitus and field. Yet the disruption caused by COVID may be precisely the kind of transformative event that the panarchy model captures well. The changes triggered by the pandemic may endure beyond its official end, reshaping systems in ways we did not anticipate. In this sense, our systems are not always resilient in the way we want them to be.

Keywords

Tertiary teaching, online teaching and learning, post-COVID, complex systems, resilience, Bourdieu, panarchy

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Introduction

COVID-19, and particularly the rapid shift to online teaching over the last few years, has been a massive shock for teachers, students, and administrators. One sociological insight of Bourdieu (2000) is that moments of systemic rupture and disruption (hysteresis) provide an opportunity to challenge and even reset aspects of our shared social reality. However, this is never guaranteed, given our desire for things to 'return to normal'. Our shared sense of normality is self-reinforcing and socially resilient.

This chapter is an attempt to reframe the disruptions to tertiary education caused by the pandemic through the lenses of both Bourdieu's concepts of *habitus* and *field*, and the adaptive cycle (*panarchy*). The former provides a structuralist framework for the maintenance and resilience of shared social realities. The latter meanwhile, acknowledging the reality of Complex Adaptive Systems (CAS), offers a heuristic for understanding changes in that same social reality. It uses the recent experience of the COVID-19 pandemic and the resulting rapid shift to online teaching in tertiary contexts, to explore how these two frameworks can complement each other. While a complex systems approach to COVID-19 and education has been undertaken (Khanal et al., 2021) such a synthesis has not been

attempted before. This chapter should therefore be seen as a provocation, an exploratory attempt to see what fruitful connections may exist.

As COVID-19 recedes in our shared history, tertiary teachers may wish to see our social reality – and in particular the traditional model of face-to-face tertiary teaching – as a rubber ball which can simply bounce back to 'the way things were'. But the complex adaptive systems which underpin and support our lived reality are not rubber balls. The heuristic of panarchy, or the adaptive cycle, is a model for explaining how the very adaptive capacity of such systems – their resilience – is based upon their ability to change unpredictably in the face of external stressors and disruptions. Such perturbations can then cascade across other parts of the system and may persist even once the original disruption ends (Duncan et al., 2020). In short, the very nature of resilience means there may be no 'bouncing back'.

Our desire to return to a pre-COVID normality with regard to university teaching is perfectly understandable; it is neither personal stubbornness nor professional Luddism. It is also sociologically explicable by reference to Bourdieu's concepts of habitus and field. Yet the shock of COVID-19 may represent exactly the sort of disruption that the panarchy heuristic illustrates well. The changes wrought by COVID-19 may, to some extent, survive the end of the pandemic. In the end, our systems are not always resilient in the way we want them to be.

Bourdieu and the persistence of 'normality'

Bourdieu's work on social practice and his analysis of the dynamics of power in society has been influential in contemporary sociology, particularly his concepts of habitus, field, and doxa as key elements in cultural reproduction and transmission (Bourdieu, 1995). In his view, each relatively autonomous field of modern life, such as the economy, politics, arts, journalism, bureaucracy, science, or tertiary education, generates a specific set of social relations where agents, such as tertiary teachers, engage in everyday practices. Through these practices (such as teaching classes, assessment and marking, and stakeholder engagement), individual tertiary teachers develop dispositions for social action conditioned by their position within the field. In other words, they learn the 'rules of the game': what it is to be a teacher in any particular institution, in any specific academic subject area, and at any specific occupational rank. These dispositions, combined with those developed through engagement with other fields (such as academic research, HR, union membership, or university management), form a system of dispositions known as habitus – socially and professionally acquired, and remarkably durable, schemes of perception, thought, and action.

This concept of habitus, for Bourdieu, also emphasises embodiment; it does not only work at the level of explicit consciousness but also in a deeper, practical, embodied, and often pre-reflexive manner. All social actors are shaped both by their own habitus, and the field in which they primarily operate. However, they also work (in an often pre-reflexive way) to reinforce this personal habitus and through that the field in which they are operating. This habitus is where internal structures become embodied and influence personal, social, and professional behaviour in profound ways: we both shape our habitus and are shaped by it.

Thus, Bourdieu presents a structuralist understanding of a social reality, which is shaped by the following formula:

[(habitus)(capital)] + field = practice (Bourdieu, 1984, p. 95).

- Field = a physical/social/cultural/organisational setting.
- Habitus = a person's social and professional expectations and attitudes/beliefs.
- Capital = assets (skills, knowledge, and connections).

Both habitus and field can be read as aspects of structure, while capital can be read as the agency of any individual to navigate their own practice within the constraints of the former. Bourdieu is well known for his conceptualisation of a range of capitals beyond the purely economic, including social, cultural, and symbolic capital, and of the process through which these are transformed into status and power (1984).

For the purposes of this brief discussion of tertiary teachers during and after the COVID-19 pandemic, and their professional and personal response to the changes in teaching practice that the resultant lockdowns necessitated, these forms of capital can be briefly understood as follows. A tertiary teacher's social capital is encapsulated in their professional experience, skills, and connections that enable them to perform the role of 'tertiary teacher'. It is their technical and pedagogical skills; their professional and social connections with peers within the same field; their understanding of their field's systems and procedures; their confidence born of experience. Their cultural capital can be understood as their formal academic qualifications; their personal identities (with 'white', 'male' and 'high SES' holding more of this capital); their research outputs and public pronouncements; and their knowledge of 'the rules of the (academic) game'. Finally, a teacher's symbolic capital is a measurement of their social status: it is the 'Dr' before their name or the letters after it; it is the persona of 'public intellectual'; it is the robes and the hat and the framed diploma; it is the self-authored books on the office bookshelf; it is the standing in front of students and dispensing knowledge as 'the expert'[1].

As per Bourdieu's formula, it is the sum of these capitals, each teacher's understanding

of and embeddedness with the field of tertiary education, and each teacher's habitus (their understanding of themselves as tertiary teachers) which makes their teaching practice possible, and which forms the symbolic capital both underpinning and growing out of that habitus.

... and then came a global pandemic.

COVID-19 and the concept of *hysteresis*

Bourdieu has sometimes been dismissed as the 'theorist of stasis' for creating a structuralist understanding of social reality. In this view, his focus is on the maintenance of social structures and practices and the resistance to change, rather than the possibilities for change or the manner in which it may come about (see Fowler, 2020, for a good overview of this critique).

There are others, of course, who claim that this is a misunderstanding of his overall approach (Fowler, 2020; Wacquant, 2008). For example: "Contention, not stasis, is the ubiquitous feature of collective life that his varied inquiries aim at making at once visible and intelligible. Struggle, not 'reproduction', is the master metaphor at the core of his thought" (Wacquant 2008, p. 218).

For evidence of Bourdieu's engagement with systemic change, and the possibilities of transformation, we can look to his use of the term *hysteresis*. A concept originally from the physical sciences, hysteresis has been used in a range of scientific contexts (such as magnetism or hydraulics) to describe how changes in a system or physical material can result in a 'lag' once reversed. Squashing a 'memory foam' pillow or stretching a rubber band provide simple examples: once these objects are relaxed, they do not *immediately* return to their original (pre-stretched) length or form.

The term hysteresis was borrowed by Bourdieu to refer to times "when a field undergoes a major crisis and its regularities (even its rules) are profoundly changed" (Bourdieu, 2000, p. 160). He argued that a similar process of 'lag' is also evident in social systems when they are faced with rapid or drastic changes.

It is at this point that we can point to the COVID-19 pandemic, and all the associated disruptions it caused, as being an event which radically changed a wide range of fields. Tertiary education was no exception, as a rapid shift to fully online learning was implemented around the world. Of course, online teaching and learning (T&L) in the tertiary context predates the arrival of COVID-19, being traced back to computer-based learning in the 1960s and 1970s. The arrival of the internet in the 1990s, and the introduction of

online learning management systems (LMS) such as Blackboard accelerated this trend immensely. By the early 2000s online T&L was a recognised delivery mode in numerous institutions (Gladieux, 2000; Sheely et al., 2001). Nonetheless, it is clear that face-to-face teaching (in whatever form) was still seen as an important aspect of the tertiary teacher's role. The habitus of the face-to-face teacher was still strong (Vivolo, 2016).

But with the arrival of the pandemic and resultant lockdowns, many tertiary teachers were unable to continue in their work as they had long been habituated. This not surprisingly affected their own understandings of their job, what their work actually entailed, and what it meant to have the professional identity of teacher. In other words: "[hysteresis] may prompt a sense of disconnect with established professional identities and dispositions while not being able to do certain valued features of work" (Graham, 2020, p. 451).

Mirroring wider changes across professional practice, the pandemic and associated lockdowns and restrictions constituted an abrupt change (and one that was therefore poorly processed either socially or psychologically) in professional practice for many tertiary teachers. This has also been conceptualised as professional vulnerability, in that it is "not so much to be understood as an emotional state or experience (although the experience of being vulnerable definitely triggers intense emotions), but as a structural characteristic of the profession" (Kelchtermans, 2009, p. 265). But Bourdieu's framework is also applicable here (Pepperell et al., 2022). The abrupt campus lockdowns and related shifts to fully online teaching delivery (with classes forced onto Zoom and all teacher-student engagement occurring virtually) flowed from the wider field through tertiary teachers' own practice and therefore undermined their underlying habitus.

For example, comments from teaching staff at the University of Waikato in Aotearoa New Zealand in 2020, in the middle of the COVID-19 lockdowns in that country and associated changes in professional practice, reflect this feeling of disconnection:

> The strategies that I use that I'm confident about in teaching – face-to-face delivery activities that I use, the way I can respond on the spot to the dynamics of the classroom – those things are all stripped away in an online environment, and you have to learn new skills.

and

> I think I found it difficult, you know, to go from being someone whose students – like, I get... nominated by my students for teaching awards. And to suddenly be someone that, you know, students are writing me emails complaining about the

> format of the lectures... And, you know, it's kind of hard to be back to being a novice. I feel like I'm a bit of a novice again. (Pepperell et al., 2022, p. 9)

The interviews undertaken as part of this research show that some tertiary teachers at the University of Waikato were able to successfully adjust their habitus to align, however uncertainly or provisionally, with these new practices, while others were not.

However, even sympathetic analyses of Bourdieu's work acknowledge that:

> It is nonetheless true that Bourdieu is but marginally concerned with historical rupture, and that his scheme is ill-equipped to throw light on what Giddens (1981, p. 23) calls 'episodes' – conjunctures and processes of social change 'in which definite structural transformations occur'. (Wacquant, 1987, p. 81)

It is clear that Bourdieu does *not* offer a well-theorised model of how challenges to a field or habitus, such as hysteresis, lead to changes in that field: in other words, the process by which heterodox reality (the *doxa*) is transformed in the face of challenges and disruptions. The requirement placed on teaching staff to teach online, and the expectation that they will "try new ways of thinking and acting illustrates that teaching online is a departure from the traditional cultural norms of academia" (Cutri & Mena, 2020, p. 367).

The widespread relief that accompanied the end of the pandemic lockdowns around the world was often accompanied by a strong desire to 'return to normal' in many aspects of our lives (Dorling, 2021). For tertiary teachers, this meant a return to the old certainties of professional practice, driven by the strength of professional habitus that had not shifted in any meaningful or permanent sense (Vivolo, 2016).

Resilience and the rubber ball

Wanting things to 'return to normal' after a disruption is an understandable and natural human response (Dorling, 2021), and we often conceptualise *resilience* as the ability to bounce back after a crisis or disruption. This can be seen after wars (Harding, 1920) or natural disasters like fires (Richardson, 2025) yet this is not always a realistic understanding of how the resilience of our systems works. At this point in the chapter, after discussing the extraordinarily resilient nature of our habitus, and the fields which we inhabit and through which we move as social actors, it is time to briefly examine this concept of resilience.

Definitions and understanding of resilience are varied and contested, often depending on the field of enquiry and/or area of professional expertise (Bhamra, Dani, & Burnard, 2011;

Hillmann, 2021). However, for the purpose of this case study, a definition that both acknowledges the ecological sciences origin of resilience (Gunderson, 2000; Gunderson & Holling, 2002; Hillmann, 2021; Holling, 1973; Walker et al., 2004) and is attuned to the emergent and adaptive nature of a Complex Adaptive System is necessary. These terms will now be explained briefly.

Systems thinking is an interdisciplinary approach used to understand natural, social, and technological systems (Ramalingam et al., 2008; Wells, 2013), including educational providers (Khanal et al., 2021). At base, while the definitions and conceptual understandings are contested, systems can be understood as an interconnected set of elements that exhibit specific behaviours over time due to dynamic interactions both between themselves and with the environment in which the systems are embedded (Meadows, 2008).

Complexity is another concept with a complicated heritage and contested definitions (Axelrod & Cohen, 2000; Cilliers, 1998; Corning, 1998; Gunderson & Holling, 2002; Holland, 1995; Morin, 2008; Prigogine, 1978; Wells, 2013). Again, a simple definition might be that it is a property of systems that reject simple linear cause-and-effect relationships. Instead, complexity in systems implies characteristics like tipping points, feedback loops, and nonlinearity (Preiser et al., 2018; Ramalingam et al., 2008; Wells, 2013). These CAS (Fidanboy, 2022; Preiser et al., 2018), are emergent and unpredictable, evolving in response to feedback and changes. Their adaptable nature, or resilience, is predicated on their ability to change through bottom-up processes of variation and selection. It is this adaptability that allows such systems to maintain their form or function despite environmental changes.

This brings us to the concept of ecological resilience, which sees CAS as resilient because (and *only* because) they "focus on maintaining existence of function" (Holling, 1996, p. 33). It was Holling (1996) who first conceptualised this difference in a seminal work entitled "Engineering resilience versus ecological resilience", and this distinction has become embedded within the interrelated resilience and complex systems literature (Hillmann, 2021)[2]. Systems exhibiting ecological resilience are not rubber balls:

> most risks are systemic in nature, and a system – unlike an object – may show resilience not by returning exactly to its previous state, but instead by finding different ways to carry out essential functions; that is, by adapting and transforming to meet challenges. (New Zealand Government, 2019, p. 18)

Finally, however, there are limits to this adaptive flexibility. When either gradual changes or rapid disruptions, whether arising within a system or externally, exceed a system's tolerance, it can lead to irreversible regime shifts. The resilience of the system is exceeded, and it shifts (the tipping point) into a new state from which it cannot return (Gunderson

& Holling, 2002; Preiser et al., 2018; Ramalingam et al., 2008). To return to the image of the rubber band, if it is stretched too far, it snaps.

While some systems may indeed have the properties of a rubber ball, it is much more likely that the adaptive capacity of a system is predicated upon a more 'ecological' understanding of resilience. This is particularly the case where the function of a system takes precedence over its form, as was the case for Higher Education Providers (HEIs) during the COVID-19 lockdowns. Their need to continue their *function* of educational delivery was more important than the *form* (face-to-face delivery) in which this function was traditionally undertaken.

At the end of this brief outline of complex adaptive systems and ecological resilience two main claims about the disruptions caused to tertiary education by the COVID-19 pandemic can be made. The first is that HEIs, like all social organisations, can be understood as complex adaptive systems. The second is that no CAS is a rubber ball; they do not bounce back unchanged after disruptions. Their resilience is predicated on their adaptability.

Panarchy and the inevitability of change

However, there is a heuristic, coming as it does out of the systems theory field, which can explain the concept of the tipping point or hysteresis, while still integrating this with the path dependency and persistence of social systems that Bourdieu so successfully explains.

Panarchy (or the Adaptive Cycle; see Figure 17.1) is a heuristic model for understanding transformations in Complex Adaptive Systems. First conceptualised by Gunderson and Holling (2002) it was designed to explain rapid or slow shifts in existing ecosystems and their resilience to these. It aimed to explain how any particular ecosystem could suddenly collapse in the face of an environmental or internal change that earlier would have presented no challenge.

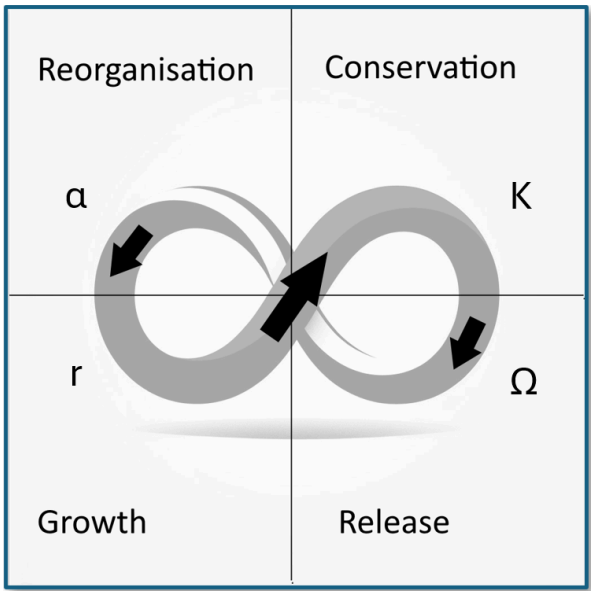

Figure 17.1 The adaptive cycle (Holling and Gunderson, 2002). Image: Loop generated using Copilot (copilot.microsoft.com) with additional material by author.

The basic adaptive cycle is an infinity loop, modelling the progression of any ecosystem (or any CAS) through four phases; growth or exploitation (r), conservation (K), collapse or release (Ω), and finally reorganisation (α).

The first two stages (r to K) are a slow, incremental phase of growth and accumulation (often called the foreloop); a period in which connectedness and stability increase, and resources are accumulated. In social systems, this accumulation includes skills, relationships, and trust, which can be utilised for the maintenance and transmission of current system conditions. There are clear similarities here with Bourdieu's model of interrelated fields, practice, and habitus as a framework for understanding the maintenance and transmission of social realities.

The last two stages of the cycle (Ω to α) are the backloop. This is a rapid (shorter) phase of release (or even collapse) leading to renewal and reorganisation and then back into the foreloop. This is analogous to the moment of hysteresis, or the 'tipping point', when the disruptions affecting a system overwhelm its resilience and it shifts into another state. This is the moment when the rubber band snaps. The advantage offered by the adaptive cycle model is that it clearly conceptualises the reorganisation phase as an opportunity for innovation and new models of social (or professional) organisation and practices to be established (and then solidified as the system moves back into the growth stage).

Panarchy across spatial and temporal scales

Furthermore, any number of adaptive cycles can be nested within each other; this is labelled a *panarchy*. This nested model is spatially and temporally multiscalar and can thus encompass rapid disjunctions and changes that occur across a range of spatial and temporal scales (see Figure 17.2).

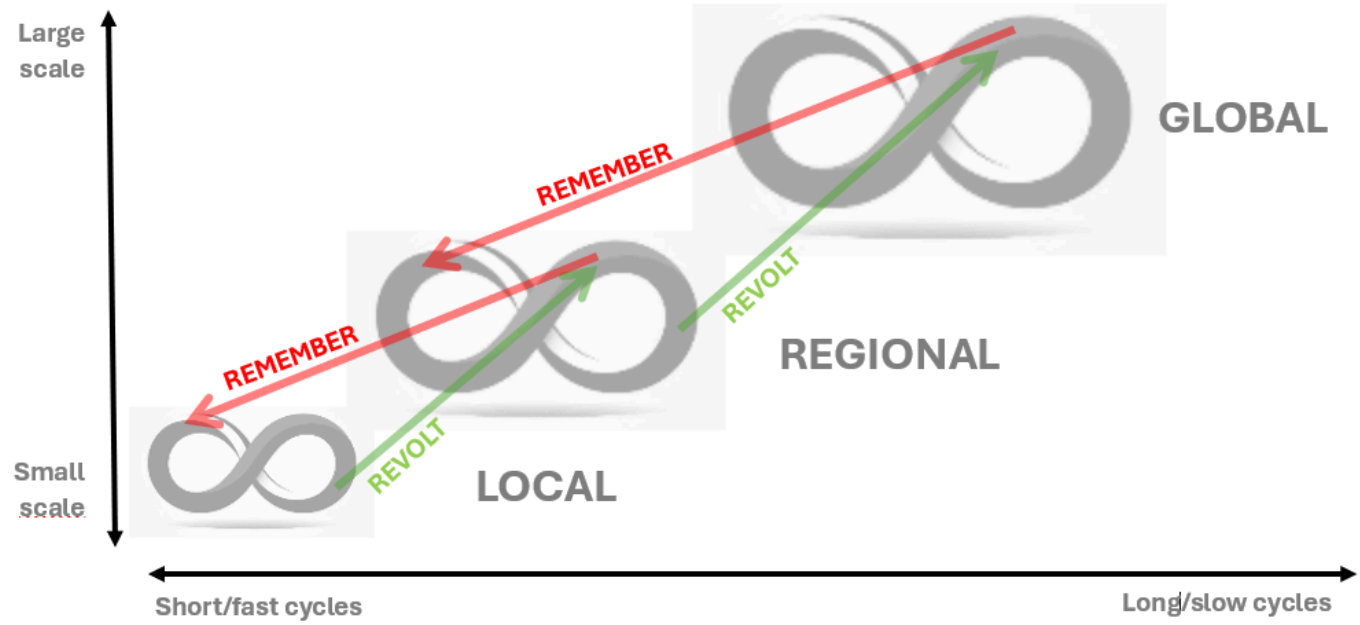

Figure 17.2 Panarchy (Holling et al., 2022). Image: Loop generated using Copilot (copilot.microsoft.com) with additional material by author.

This model of panarchy (nested adaptive cycles) has been applied to a number of social and sociological contexts over the last two decades (Rocha et al., 2022). Building on this history, it is the contention of this chapter that the panarchy heuristic can add depth to Bourdieu's concepts of field, habitus, and hysteresis with regard to systemic change. This is *not* because it offers any specific predictive power with regard to future events, but because it is a useful heuristic for understanding change in Complex Adaptive Systems and offers a conceptually more useful model for understanding both gradual and rapid change than the concept of hysteresis.

Applying the panarchy model to tertiary teaching post-COVID-19

It is possible to analyse the field, practice, and habitus of university teaching during and after the COVID-19 pandemic and associated lockdowns through the panarchy heuristic. Below is an attempt to map the changes that occurred across three scales (global, regional, and local).

Global

At a global level, both spatially and temporally, the *field* of tertiary education and all the institutional, social, and professional practices associated with it are buttressed by hundreds of years of tradition and shared understandings of what a university education entails, and what teaching at a university traditionally means. Up until COVID-19 this system was clearly in the *conservation* stage. For example, the *habitus* of on campus face-to-face teaching in large lecture halls, despite legitimate criticisms (Bracken & Novak, 2019), was immensely strong (Vivolo, 2016).

But the rapid disruptions caused by the COVID-19 pandemic also occurred at this global spatial scale. The speed of the pandemic, and its rapid spread across the globe, caused rapidly cascading changes down through the nested (regional and local) spatial scales. It shifted these scales into the backloop; countries and cities implemented lockdowns and radically upended educational practices, including in HEIs where ...

Regional

... the practice of the large face-to-face lecture and smaller face-to-face tutorials was abruptly replaced by online delivery modes (synchronous Zoom sessions and asynchronous access to readings and other materials). These changes were all extremely rapid (shifting these levels of the panarchy into the *release/collapse* stage) and caused immense shockwaves both through these institutions and amongst the individuals teaching and working in them. They were a shock to both the field and the habitus of those working within it.

However, as the pandemic eased and the lockdowns stopped, there was also a strong tendency to *remember* at HEIs and a push to bring students back to campus – as the debate over online versus face-to-face delivery continues (Kenny, 2022; Lee, 2020; Matthews, 2022; Russo, 2025; Soffer & Nachmias, 2018).

At the same time, as the pandemic receded individual HEIs at this lower scale soon recognised rising demand for online learning amongst their current and prospective student bodies (Garrett et al., 2023; McCormack, 2023). This led to pressure to keep online learning in some sense (however conceptualised and implemented). This represents a *revolt* against the long-held realities of the *field*; a reluctance to completely 'return to normal' on the part of HEIs, driven as they are by the economic imperative to provide what their students (clients) want. In many cases this still remains face-to-face delivery, although the demand for blended or flexible delivery continues to rise (Cassidy, 2024; Garrett et al., 2023; McCormack, 2023; Uekusa, 2023). In the section 'Education without

Boundaries?' below, the equity and inclusion implications of this debate, particularly with regard to students' access to tertiary education, will be acknowledged.

At the same time, there has been real pressure from actors at the local scale ...

Local

... to *remember* the history and embedded social practices of the field of tertiary education; a tendency amongst the countless staff and past students who have been deeply embedded in this field. There is a long-cherished understanding of normality embedded in the memory of the campus buzzing with students and student life, the meetings with students in faculty offices, and the packed lecture halls filled with students listening to the expert teacher ...

But there is also a *revolt* on the part of some students against the uncritical reimposition of these realities. Recent research and experience finds tertiary students in Australia (Stone, 2019), Aotearoa New Zealand (Uekusa, 2023) and the US (Arbanas et al., 2024) increasingly want hybrid or online study. More specifically, in the US:

> Among those with remote learning experience, more than half would like to continue 'completely or mostly remote'[...] Another quarter would prefer an even blend of remote and in-person learning, and only one in five would want to learn completely or mostly in person ... Even among in-person students, about four in 10 said they would prefer some virtual options going forward. (Arbanas et al., 2024)

Enrolments in hybrid or online courses at the majority of surveyed US HEIs is growing while face-to-face enrolments are "stagnant" (Garrett et al., 2023, p. 4).

In Australia and Aotearoa New Zealand, tertiary students are also increasingly rejecting (revolt) the traditional face-to-face lecture now that the option of recorded lectures is available (Cassidy, 2024; Kenny, 2022; Uekusa, 2023) – or even when it is not (Howell, 2023). However, the view of staff towards these changes has been more mixed; while some found the challenge of online teaching positive (Cutri et al., 2020) and argue for change (Uekusa, 2023), many others do not (Cassidy, 2024; Kenny, 2022).

Education without boundaries?

It is important to acknowledge that there are clear equity and accessibility reasons why students and other stakeholders may not want to return to the pre-COVID model of predominantly face-to face teaching (revolt). There are many students for whom an exclus-

ively face-to-face mode of delivery is a boundary, shutting them off from access to tertiary education: students with parenting or caring responsibilities; students with disabilities, neurodivergence, or mental health challenges; students from lower SES backgrounds who need to continue working while they study; students from rural or remote areas (Stone, 2019).

As the massification of tertiary education continues, HEIs face a clear financial and social imperative to offer flexible educational delivery options to promote inclusion and accessibility to as many prospective students as possible. This is analogous to the growing resistance on the part of knowledge workers – many of whom are working mothers with young children (Minhas, 2024) – to stop working from home and return to working in the office five days a week (Bloom, 2022). COVID-19 has shown that online teaching (notwithstanding the clear challenges and the pedagogical advantages offered by learning in a face-to-face context) is *possible*; and that is enough (in light of student demand) for this educational option to continue.

Conclusion

It is crucial to note that this chapter is not making a determinist argument about the nature of tertiary teaching in the years ahead. The trend of increasing digital education (Garrett et al., 2023; McCormack, 2023), is not a certainty. However, it is clear that

> post-COVID-19, higher education has already started to experience a new paradigm shift. This change has been in curriculum design, revised program structure, adopting innovative pedagogy and flexible delivery models. There has also been a significant shift in how staff engage and work. (Sultan et al., 2023, p. 420)

The trend is clear, yet other disruptions as yet unseen may change this possible trajectory. The Panarchy heuristic is not a model for reading or predicting the future. Yet it can help to conceptualise the interactions between various social, personal, technological, and ecological factors, operating across both spatial and temporal scales from the local to the global, that may cause the sort of paradigm shift that systems theory labels the 'tipping point'.

'Online learning' (as one component of tertiary *practice*) appears to be here to stay. Whether fully online, or in a blended delivery model with face-to-face classes included, the persistence of online delivery in some form is increasingly seen as unavoidable by HEIs. It can be seen as the new reality of the *field* – it is the 'new normal' – and we teaching academics will need to develop a *habitus* that reflects this new reality: "I see no value

in lecturing to an empty classroom. Our teaching pedagogies should adapt to the 'new normal' to improve our learning and teaching" (Uekusa, 2023, pp. 36–7).

Adapting to and accepting the lasting changes that may arise, as any complex system re-balances after a disruption, is a clear example of environmental resilience in action. As the adaptive cycle explains, following the *release* stage the system moves into the *reorganisation* phase, where the new opportunities are made available by the collapse of old certainties:

> While the pandemic presented a disruptive influence, disruption can also present opportunities for innovation and change. In our earlier research looking at the disruptions and tensions posed by shifts into new digital media practices [...] we suggest that, 'what might be initially experienced as a disruption [...] may in fact present opportunities for more innovative teaching and learning experiences for all'. (Laidlaw et al., 2022, p. 74)

Most interestingly, the panarchy model sees such disruptions and collapse, and the opportunity for reorganisation and growth, as both natural and necessary. Complex adaptive systems, like a university, survive disruptions by adapting. They do not bounce back like rubber balls; they shift and change. Even if this change is deeply painful to many actors within the system.

But if it is true that tertiary education is now in the reorganisation stage of the Adaptive Cycle, the implications for HEIs are clear: universities and other institutions will need to provide the training and skills (the capital) that teaching academics will need to enable them to adapt to these new realities. Returning to Bourdieu's formula, "[(habitus)(capital)] + field = practice" (Bourdieu, 1984, p. 95), it is clear that effectively changing the practice of teachers (shifting to online teaching as the new reality of the field, rather than a brief disruption to the 'normality' of face-to-face teaching) will not happen without a change in teachers' personal, social, and professional capital – and a resulting change in their habitus.

The understanding that a "source of faculty resistance to online education is related to fears of the unknown, loss, and failure" (Mitchell et al., 2015, p. 358) predates COVID-19. Any lasting changes to the field of university teaching, and tertiary teaching practice, will not be successfully embedded by HEIs unless the training and support is provided to teaching staff to increase their teaching capital (the technical and pedagogical skills to allow effective online teaching). But this is not purely about skills, as such training has been offered at many HEIs long before COVID-19. Instead, what is also needed in this 'new normal' is assistance to teaching staff to help them embrace a change in their habitus:

> the findings of disrupted identity as expert can be considered cultural artifacts of traditional faculty roles that are being challenged in the digital age of higher education and as a source of professional vulnerability. Addressing such cultural discontinuities should be included in professional development efforts to support faculty. (Cutri & Mena, 2020, p. 368)

This means that, beyond a focus on technical and pedagogical competence, HEIs must acknowledge the "structural and cultural differentials inherent in faculty readiness to teach online" (Cutri & Mena, 2020, p. 362). The first step in doing so would be to acknowledge the difficult affective dimensions involved in making online and blended delivery a core component of their teaching academics' professional habitus (Dyment et al., 2013). HEIs then need to assist faculty in making this significant psychological adjustment through the professional development they offer.

Calls on the part of teachers to 'return to normal' cannot simply be rejected as luddism, or worse as simple stubbornness. They are a predictable reaction to a series of events which undermined both their work practices and their professional identities. However, at the same time this understandable desire to restore old certainties is also a misunderstanding of how resilience in complex systems actually works. Such systems do not bounce back unchanged after large disruptions. They shift and adapt to new realities: "The past is a foreign country; they do things differently there" (Hartly, 1953, p. 1).

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1. This image is of course representative of an outdated 'chalk and talk' or 'sage on the stage' understanding of tertiary teaching which is widely recognised now as detrimental in terms of both inclusion and educational effectiveness (Bracken & Novak, 2019; Freire, 1996). Both teaching theory and practice have clearly moved on from this – yet such an outdated and even cliched understanding of tertiary teaching is exactly what Bourdieu's concept of the habitus describes. In the face of sustained professional and theoretical critique this image of the teacher still holds symbolic power within both the field of the university and broader society. The reader is invited to do a search for 'university teaching' and look at the images that are presented (of teachers positioned as the expert and standing physically in front of receptive students) to see how this view of 'tertiary teaching' still has symbolic persistence. Similarly, the physical presence of large lecture halls across university campuses also speaks to the persistence of this model. ↲
2. To quote Holling, engineering resilience "focuses on efficiency, constancy, and predictability—all attributes at the core of engineers' desires for fail-safe design. The other [ecological resilience] focuses on persistence, change, and unpredictability—all attributes embraced and celebrated by biologists with an evolutionary perspective and by those who search for safe-fail designs" (1996, p. 33). The former is the rubber ball, bouncing back after disruptions in the same form. The latter embraces uncertainty; such systems are also resilient, but only through changing in some way.Enter your footnote content here. ↲

About the author

Anthony Richardson

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