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# **Leveraging technology to humanise the learning experience:**

Key lessons higher education can learn  
from “knowledge worker” companies

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# About this report

*Leveraging technology to humanise the learning experience: key lessons higher education can learn from “knowledge worker” companies* is an Economist Impact report, sponsored by Microsoft Education, that provides higher education faculty members with an overview of best practices they can take from knowledge worker companies’ assimilation of new technologies and patterns of working.

This report combines knowledge taken from faculty and student surveys, expert interviews with academics and business professionals, and desk research. It offers a blueprint of knowledge workers’ key skills and the digital tools they use, along with how their companies leverage data and have assimilated hybrid working, to showcase opportunities for higher education. Additionally, it addresses contemporary challenges shared between the working world and higher education, such as how to onboard new members, how to maintain productivity without burnout, and how to conduct effective remote work. Higher education can take lessons from knowledge worker companies to maximise more effective, personalised learning in a way that retains the essential human and social aspects of the holistic learning experience.

We would like to thank the following experts for their time and insights:

- **Julian Birkinshaw**, professor of strategy and entrepreneurship, London Business School
- **Rachel Romer Carlson**, CEO of Guild
- **Dr David Conrad Kellermann**, senior lecturer, School of Mechanical and Manufacturing Engineering, University of New South Wales (UNSW)
- **Joyce Seitzinger**, director of SX innovation at RMIT Online, the online arm of the Royal Melbourne Institute of Technology
- **Mark Smithers**, associate dean of digital learning and innovation, Collarts (Australian College of the Arts)

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## Executive summary

Looking ahead to the post-pandemic education landscape in 2022 and beyond, it is clear that higher education institutions need to innovate by incorporating new technology and adapting organisational best practices to maximise effective, more personalised learning. The challenge has now become: *How do faculty educators realise this customisation while retaining the human and social connections that are so vital to effective learning experiences?*

In many ways, this key question – how to use technology in a manner that accelerates productivity, while enhancing the human experience – mirrors similar challenges faced by modern workplaces and the knowledge workers they employ. Educators are not typically

included in traditional conceptions of knowledge workers, and yet the construction, storage, communication and transference of knowledge in education has distinct parallels to such processes in knowledge-focused workplaces. As such, educators can leverage key lessons and solutions from traditional “knowledge worker” institutions and their hybrid operating models.<sup>1</sup> Tech and tech-savvy companies offer especially compelling resources, such as collaborative tools and approaches that educators can employ to navigate their newly shifting roles in the classroom.

Against this backdrop, this last report of a four-part series outlines the key lessons that educational institutions can take from traditional knowledge worker companies.

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<sup>1</sup> Models that blend online and in-person collaboration

## A critical need to adapt

Since the onset of covid-19, students have missed out on key social aspects of higher education. Research published in *NeuroRegulation* indicates that 80% of college students<sup>2</sup> found it harder to focus their attention and stay present while taking classes online, and many reported experiencing increased isolation, anxiety and depression. Without the typical social experiences around learning, traditional online education alone cannot replace critical human and personal aspects, which leads to less effective outcomes. At the same time, one of the critical takeaways from Economist Impact (EI) research to date is technology’s immense ability to enable greater personalisation and humanisation of learning.<sup>3,4,5</sup> It is clear that more advanced technology and efficient upskilling is necessary as institutions

progress from the “emergency response” mode of the pandemic’s early stages. Despite the direction that higher education is taking towards hybrid learning (offering a mixture of online and in-person courses<sup>6</sup>), the vast majority of faculty educators surveyed by the Economist Intelligence Unit (EIU) in 2020 said that their institutions still needed to invest both in upskilling and in emerging technologies so they could deliver effective online learning and connect with students. Only one in three educators said that their institution had upskilled staff and increased investments in the ongoing digital transformation, and more than half (56.5%) expressed concerns about their ability to amass the new, necessary digital skills for online learning.

The potential exists for higher education faculty to harness lessons from knowledge workers, as knowledge worker companies and their employees share similar challenges around upskilling workers and humanising technology.<sup>7</sup>

**Only one in three educators said that their institution had upskilled staff and increased investments in the ongoing digital transformation.**

<sup>2</sup> Peper, Erik, Vietta Wilson, Marc Martin, Erik Rosegard and Richard Harvey. “Avoid Zoom Fatigue, Be Present and Learn”, *NeuroRegulation*, Vol. 8, No. 1 (2021): pp. 47-56.

<sup>3</sup> Bray, Marianne. “Flattening The Multimodal Learning Curve: A Faculty Playbook”, The Economist Intelligence Unit (2020).

<sup>4</sup> Wasik, Emily and Marianne Bray. “Bridging The Digital Divide To Engage Students In Higher Education”, The Economist Intelligence Unit (2020).

<sup>5</sup> Bray, Marianne. “The 2021-22 Multimodal Learning Framework”, Economist Impact (2022).

<sup>6</sup> Wasik and Bray, 2020.

<sup>7</sup> Morgan, Jacob. “Humanizing the Workforce with Technology”, Citrix (2016).

# Knowledge workers

Peter Drucker coined the term “knowledge work” in 1959, when he predicted that information would change the way people work.<sup>8</sup> These new “knowledge workers” would generate value through their minds rather than through their muscles, and their labour would be both dynamic and autonomous.<sup>9</sup> Drucker’s prediction came to pass: in 2019 Gartner analysis estimated there were around 1bn knowledge workers globally,<sup>10</sup> including analysts, software developers, accountants and engineers.

In order to adapt continuously to new technologies and more effective ways of working, knowledge workers require both a bedrock of “durable” skills such as communication and interpersonal skills along with the ability to

learn new “non-durable” skills as they journey through their careers, says Rachel Romer Carlson, CEO of Guild, a social impact company that empowers American workers through education, career pathways and coaching.

“Every five years [workers need to acquire] new technical skills, whether those are ways to manage people and teams, manage projects and products, or use technology to accomplish a goal,” says Ms Romer, acknowledging that this upskilling cuts across industries. This requisite digital fluency, from interacting with operating software suites right through to advanced artificial intelligence (AI), was one of the top two skills identified in a 2021 global study on the new world of work.<sup>11</sup>

Knowledge worker companies use a range of training techniques, along with tools and strategies to gather and deliver information, build teams and interact with customers, and – out of necessity – are constantly adapting. They may shed some light on how higher education can amass a toolkit of similar strategies and prepare students for lifelong learning and technological adaptation.

**Knowledge worker companies use a range of training techniques, along with tools and strategies to gather and deliver information, build teams and interact with customers, and – out of necessity – are constantly adapting.**

<sup>8</sup> Drucker Institute. “About Peter Drucker.”

<sup>9</sup> “What Is a Knowledge Worker and How Is Knowledge Work Changing?”, Panopto Video Platform, July 26th 2018.

<sup>10</sup> Roth, Craig. “2019: When We Exceeded 1 Billion Knowledge Workers”, Gartner, December 11th 2019.

<sup>11</sup> “LinkedIn Learning’s 5th Annual Workplace Learning Report: 2021 / Skill Building in the New World Of Work”, LinkedIn Learning (2021).



## What skills do knowledge workers use to develop and evolve within hybrid working organisations?

Research shows that the covid-19 pandemic, along with a rise in automation, AI and robotics, will increase demand for technological, social, emotional and higher cognitive skills in the workplace, while roles that require physical, manual or basic cognitive skills will decline.<sup>12</sup> These durable skills are not necessarily learned in the classroom, whether in person or online; in fact, some of the best learning is interwoven and embedded with workplace experience, according to Julian Birkinshaw, professor of strategy and entrepreneurship at London Business School.

Embedded workplace learning helps knowledge workers evolve in hybrid working organisations. Managers can teach new employees how to become leaders, as well as how to handle different workplace scenarios, leading to the development of useful skills and competencies. Ms Romer cites the first time she saw virtual reality (VR) effectively deployed in a learning

environment as “in a Walmart Academy classroom [simulating] what Black Friday looked like, and how a manager could learn to manage the intensity of that experience.”

A consensus is emerging in both business and academic worlds that the skills and competencies gained while working should be validated with nationally recognised qualifications.<sup>13,14,15</sup> Such validation is important for recognising the skills that workers gain on the job and providing the opportunity to carry those credentials forward for life.<sup>16</sup> This has implications for higher education, where the traditional “one and done” approach is slowly shifting towards lifelong learning and credentialing.<sup>17</sup>

Given this need to evolve over time to keep up with new workplace trends, the most important skill a knowledge worker can have is a learner mindset, experts told EI.

<sup>12</sup> Dondi, Marco, Julia Klier, Frederic Panier, and Jörg Schubert. “Defining the Skills Citizens Will Need in the Future World of Work”, McKinsey & Company (2021).

<sup>13</sup> Nikolova, Irina, Joris Van Ruysseveldt, Hans De Witte and Jef Syroit. “Work-Based Learning: Development and Validation of a Scale Measuring the Learning Potential Of The Workplace (LPW)”, *Journal Of Vocational Behavior*, Vol. 84, No. 1 (2014): pp. 1-10.

<sup>14</sup> Curnow, Christina, Robert Calderón, Tessa Riley, Christopher Rivera Carvajal, Sara Trevino and Samia Amin. “Measuring Skills At Work. Lessons From The Field”, American Institutes for Research (2021).

<sup>15</sup> Gomezelj Omerzel, Doris, Katarina Fister and Nada Trunk Sirca. “The support of employers in the system of workplace learning recognition”, *International Journal of Innovation and Learning*, Vol. 5, No. 1 (2008): pp. 38-50.

<sup>16</sup> Oldham, Todd. “Start Stacking: A Conscious Approach to Addressing Skills Gaps”, *The Evollution* (2020).

<sup>17</sup> Sackett, P.R., N. Schmitt, J.E. Ellingson and M.B. Kabin. “High-stakes testing in employment, credentialing, and higher education: Prospects in a post-affirmative-action world”, *American Psychologist*, Vol. 56, No. 4, pp. 302-318.

“The data over the last 40 years – and what we can see into the next 20 and 40 years – shows [that] the number-one way to be successful in this economy will be to be an agile learner,” says Ms Romer. “The ability to apply curiosity, a growth mindset, and learner’s mindset is the [only] future-proof skill.”

### What does this mean for the skills needed in higher education?

Although higher education faculty and students are not typically deemed knowledge workers, they utilise very similar skills, such as teamwork, leadership, interpersonal communication, problem-solving and project management.<sup>18</sup> Universities have a clear role to play in building both the durable and non-durable skillsets of their faculty and students, and in cultivating a

learner’s mindset, experts told EI. They can mirror knowledge workers’ effective skill development by introducing students to the idea that their first day of learning is the start of a lifelong career, rather than simply a path to good grades and graduation, says David Conrad Kellermann, senior lecturer at the School of Mechanical and Manufacturing Engineering at the University of New South Wales.

“Professors are some of the first people in our professional network. They shepherd students into the professional environment, and have an ongoing role for those students as professional referees for their first jobs and as mentors as they go into the workplace,” says Dr Kellermann.

Research carried out by Joyce Seitzinger, director of SX innovation at RMIT Online, the online arm of the Royal Melbourne Institute of Technology, shows how important these professional links are and that students enjoy building strategy plans with their industry mentors. Further, practices used in the knowledge worker economy – such as deep dives, simulations, diagnostics, positive psychology, best-self approaches and one-on-one coaches – are also good ways to upskill students, adds Mr Birkinshaw. Such competency-based educational strategies, personal growth and career advancement are top-of-mind for online students<sup>19</sup> and can position them for work in hybrid working organisations.

**Universities have a clear role to play in building both the durable and non-durable skillsets of their faculty and students, and in cultivating a learner’s mindset.**



<sup>18</sup> “What Is a Knowledge Worker? Types And Skills”, Indeed Career Guide (2021).

<sup>19</sup> “Top Challenges Facing U.S. Higher Education”, Wiley (2021).

## What can be learned from knowledge workers’ assimilation of hybrid work?

Spurred initially by necessity, during the pandemic, companies are increasingly adopting permanent approaches to remote and asynchronous work<sup>20,21</sup> and allowing employees much more flexibility as to when and where they work. One Gartner forecast predicted that 51% of knowledge workers would be working remotely by the end of 2021, up from 27% in 2019.<sup>22</sup>

As the pandemic slowly recedes in high-income countries, many knowledge worker companies have turned their focus to how to communicate, organise and manage in all types of environments, including virtual and hybrid workspaces.<sup>23</sup> This includes key lessons around:

- **hybrid organising**, such as online meetings for onboarding and corporate culture;
- **hybrid managing**, by moving away from micro-managing workers in a traditional command and control approach, and enabling them to self-organise when and where they work; and
- **hybrid communicating**, with timely sharing of information through collaboration software, and the set-up of online social channels such as informal “Monday Coffees” or “Friday Drinks.”<sup>24</sup>

Using new communication and collaborative tools alongside adopting a hybrid approach with planned in-person office days can help to build teamwork and community for knowledge workers, experts told EI.



## Higher education’s hybrid opportunity

This new hybrid model can be applied to higher education, where online and in-person courses are allowing students – especially non-traditional students<sup>25</sup> – to learn remotely and on their own schedule. Finding new ways to communicate and collaborate is key. The online and pre-recorded lectures that are currently preferred by faculty in the EIU survey are not enough to engage students,<sup>26</sup> revealing a strong need for higher education to increase communication options.

This might mean offering a mix of online asynchronous modules with live, in-person sessions, or creating an option for students to attend in-person classes as part of their hybrid course, experts told EI. Trying to create a sense of community that sits as an umbrella above the courses and lasts through the students’ journey to their degrees is one idea that Mark Smithers, associate dean of digital learning and innovation at Collarts (Australian College of the Arts), says is worth pursuing.

<sup>20</sup> Fong, Kenzo. “The Future Of Work Is Asynchronous”, *Fast Company* (2022).

<sup>21</sup> Glaveski, Steve. “Remote Work Should Be (Mostly) Asynchronous”, *Harvard Business Review* (2021).

<sup>22</sup> “Gartner Forecasts 51% Of Global Knowledge Workers Will Be Remote By The End Of 2021”, Gartner, June 22nd 2021.

<sup>23</sup> Jain, Tanusree and Louis Brennan. “The Future Of Back To Work Requires A Hybrid Systems Thinking”, *California Management Review* (2020).

<sup>24</sup> Jain and Brennan, 2020.

<sup>25</sup> Remenick, Lauren. “Services and Support for Nontraditional Students in Higher Education: A Historical Literature Review”, *Journal of Adult and Continuing Education*, Vol. 25, No. 1 (2019): pp. 113-130.

<sup>26</sup> Wester, Emma R., Lisa L. Walsh, Sandra Arango-Caro and Kristine L. Callis-Duehl. “Student engagement declines in STEM undergraduates during COVID-19-driven remote learning”, *Journal of Microbiology & Biology Education*, Vol. 22, No. 1 (2021).

## What are the digital tools that help knowledge workers succeed?

In order to help workers’ job performance, knowledge worker companies typically have a *tech stack*: a collection of tools, platforms, apps and pieces of software to build their products, carry out their operations, and monitor performance.<sup>27</sup> Companies use digital tools ranging from business applications to complex machines, depending on the needs of their workers. For example, some workers may need mobile devices and access to cloud computing for anywhere access.<sup>28</sup>

Successful companies leverage numerous apps and build holistic tech stacks to achieve their goals.<sup>29</sup> The more innovative companies use advanced tech stacks, including tools such as AI, to become more human-centred, leaving

mundane tasks to virtual assistants or chatbots.<sup>30</sup> These companies have discovered that AI can help managers to crunch numbers, identify patterns, and make faster data-driven decisions.<sup>31</sup> AI is especially powerful when analysis is reliant on large or historical data sets. For example in the medical field, AI can analyse huge amounts of data from images, clinical research trials and claims, and identify insights that humans would not see.<sup>32</sup> With AI-powered telemedicine, doctors can treat patients remotely, guided by the information they receive from sensors on wearable devices.<sup>33</sup> Equipped with the right tech stack and enabled by cloud computing, many knowledge workers can do their jobs from anywhere in the world.

**Equipped with the right tech stack and enabled by cloud computing, many knowledge workers can do their jobs from anywhere in the world.**



<sup>27</sup> Rodriguez, Ivelisse. “Tech Stack: Definition + 9 Examples From The World’s Top Brands”, HubSpot (2021).

<sup>28</sup> Castle, Scott. “Who Are Knowledge Workers And How Do We Enable Them?”, *Forbes* (2021).

<sup>29</sup> Rodriguez, 2021

<sup>30</sup> Marquis, Christopher. “AI Technology Can Enhance Human-Centered Work Instead of Threaten It”, *Forbes* (2020).

<sup>31</sup> Kolbjørnsrud, Vegard, Richard Amico and Robert J. Thomas. “How Artificial Intelligence Will Redefine Management”, *Harvard Business Review* (2016).

<sup>32</sup> Kwo, Liz. “Top 10 Use Cases For AI In Healthcare”, *Mobihealthnews* (2021).

<sup>33</sup> Varshneya, Rahul. “The Growing Role Of Artificial Intelligence In Telehealth”, *MedTech Intelligence* (2021).



**This lack of adaptivity to technological offerings is emblematic of a wider trend across higher education... in order to succeed, higher education needs to focus on ensuring it has the right digital capabilities to meet student needs – along with the right people and processes to drive this transformation.**

### Harnessing digital tools in higher education

Higher education pioneers such as Dr Kellermann at the University of New South Wales have also been using AI to personalise learning.<sup>34</sup> His work is at the forefront of the AI and advanced analytics work that is being used to help deliver lessons in a range of learning formats, including personalised platforms with hands-on virtual tools and 24-7 support.<sup>35</sup> However, to date most educators have employed a limited tech stack, despite increasingly diverse student needs, teaching environments and learning modalities,<sup>36</sup> along with the potential these technologies hold for higher education.<sup>37</sup>

This lack of adaptivity to technological offerings is emblematic of a wider trend across higher education. In a 2022 report, impact intelligence platform HolonIQ cited digital adoption and transformation as the greatest challenge globally for universities. The report found that in order to succeed, higher education must focus on ensuring that it has the right digital capabilities to meet student needs – along with the right people and processes to drive this transformation.<sup>38,39</sup>

Tools from big tech companies, such as enterprise collaboration and productivity platforms, should be used to scaffold increasingly digital campuses in much more innovative and comprehensive ways, says Dr Kellermann. In one prominent example, HolonIQ measured higher education’s digital capability across students’ learning lifecycles: looking at the importance of specific data, skills and tools in connecting and personalising the student experience at every stage, from before students started education, through to their jobs and lifelong learning. Efforts such as these can help institutions to assess and benchmark their performance in a way that mirrors knowledge worker companies.<sup>40,41</sup>

<sup>34</sup> Pimm, Ella. “UNSW Teams Success: Integrating AI In Education”, Nexacu Singapore (2021).

<sup>35</sup> Child, Felipe, Marcus Frank, Mariana Lef and Jimmy Sarakatsannis. “Setting A New Bar For Online Higher Education”, McKinsey & Company (2021).

<sup>36</sup> Bray, 2022.

<sup>37</sup> Neelakantan, Shailaja. “Successful AI Examples in Higher Education That Can Inspire Our Future”, *EdTech* (2020).

<sup>38</sup> “Digital Capability in Higher Education: 2022 Global Insights”, HolonIQ (2022).

<sup>39</sup> García-Morales, Víctor J., Aurora Garrido-Moreno and Rodrigo Martín-Rojas. “The Transformation of Higher Education After the COVID Disruption: Emerging Challenges in an Online Learning Scenario”, *Frontiers in Psychology*, Vol. 12 (2021).

<sup>40</sup> “Knowledge Management Capability Assessment Tool”, APQC (2022).

<sup>41</sup> “Electronically Monitoring Knowledge Worker Performance”, APQC (2020).

## Leaning in to the power of data

A shift in workplace focus from education to continuous learning<sup>42</sup> calls for the smart use of data in order to navigate a more complex environment. Among some of the more innovative human-centred approaches that have emerged in knowledge worker companies are “talent marketplaces”, or human resource platforms based on advanced analytics that harness the power of AI, enabling workers to find new jobs within their organisations, and discover projects and mentors internally.<sup>43,44</sup> Additionally, hiring software can be used to help conduct anti-bias assessment, says Ms Romer. Companies can use technology-enabled “blind recruitment” to identify talent,<sup>45</sup> employing behavioural science and fairness-optimised AI technology to evaluate workers on their soft skills.<sup>46</sup>

Knowledge worker companies were thinking about learning analytics and how to incorporate them into corporate training and organisational learning for years before the pandemic.<sup>47</sup> Covid-19 only accelerated this shift; the global market for predictive analytics is expected to grow from US\$10.5bn in 2021 to US\$28.1bn by 2026.<sup>48</sup> In an increasingly uncertain world, knowledge worker companies have continued to use predictive analytics models to explore patterns in their data to identify risks and opportunities.

**Data that students generate on digital platforms, such as on learning management systems or enterprise software, can give educators a line of sight into how to best help their students.**

## Data’s potential for higher education

These tools and technologies have potential for higher education if institutions invest in analytics and platforms that personalise the learning journey, but their use at present remains patchy.<sup>49</sup>

At its best, this data, combined with machine learning, can be visualised to give insights and predict how students will perform.<sup>50</sup> In addition, data that students generate on digital platforms, such as on learning management systems or enterprise software, can give educators a line of sight into how to best help their students.<sup>51</sup> Educators can then take action to help students who may be at risk, or who need more attention. “If the [data predicts] that the student is going to fail their final, then [the educator can] take action and provide this particular student with additional support,” says Dr Kellermann. “This is a very human-centred response. The analytics [allow] us to do something human.”

<sup>42</sup> Bersin, Josh and Marc Zao-Sanders. “Making Learning a Part of Everyday Work”, *Harvard Business Review* (2019).

<sup>43</sup> Bersin, Josh. “The Mad Scramble to Lead the Talent Marketplace Market”, Josh Bersin (2021).

<sup>44</sup> Schreiber-Shearer, Nicole. “The Talent Marketplace, Explained”, Gloat (2022).

<sup>45</sup> Pozniak, Helena. “The Bias Battle: How Software Can Outsmart Recruitment Prejudices”, *The Guardian* (2020).

<sup>46</sup> “Pymetrics: AI Recruiting & Job Matching Platform”, Pymetrics.Ai.

<sup>47</sup> Uhl, Trish. “Are You Ready to Start the Workplace Learning Analytics Journey?”, HR Zone (2018).

<sup>48</sup> “Predictive Analytics Market Size, Share And Global Market Forecast To 2026”, Marketsandmarkets (2021).

<sup>49</sup> “Strategic Data Use in Higher Education: Using Data to Improve Postsecondary Success”, Center for Education Policy Research, Harvard University (2020).

<sup>50</sup> Fahd, Kiran, Sitalakshmi Venkatraman, Shah J. Miah and Khandakar Ahmed, “Application of machine learning in higher education to assess student academic performance, at-risk, and attrition: A meta-analysis of literature”, *Education and Information Technologies* (2021): pp. 1-33.

<sup>51</sup> Krawitz, Mark, Jonathan Law and Sacha Litman. “How Higher-Education Institutions Can Transform Themselves Using Advanced Analytics”, McKinsey & Company (2018).

# Shared challenges in knowledge work and higher education

Knowledge workers and educators share key challenges. In some such cases, higher education can look to knowledge worker companies to see which tools, training and strategies are effective at addressing their common problems.

## How to onboard employees and students

Since the outbreak of the pandemic, virtual onboarding has become mainstream, as – out of necessity – companies have been hiring workers without meeting them in person. However, remote hiring can be challenging; organisations may find it difficult to fully communicate culture and identity when workers onboard without the ability to meet their co-workers. “Remote onboarding is an experiment,” says Mr Birkinshaw. “Time will tell whether it will work.”

**New students wanted digital orientation to mirror the on-campus experience of the past, covering aspects like how to set up their virtual workspaces as well as types of available support.**

Some of the solutions proposed for onboarding in the transformed knowledge economy have included welcome emails, making key introductions, connecting with a virtual buddy and subject experts, conducting synchronous learning, and setting clear expectations.<sup>52</sup>

With the surge in remote and hybrid learning, higher education institutions too must learn to onboard students as they begin their learning journeys. Some of the ideas experts shared with EI included setting up onboarding courses virtually, or arranging for an annual in-person meet-up once or twice a year to help students connect with the values and community of a school, as well as with their peers and teachers.

RMIT Online, which offers courses virtually at the nexus of business, design and technology, ran its first online onboarding course in December 2021, based on research that asked students what they were missing. “That [research] gave us great insights into what they actually wanted,” says Ms Seitzinger. New students wanted digital orientation to mirror the on-campus experience of the past, covering aspects such as how to set up their virtual workspaces as well as types of available support.

<sup>52</sup> Chung, Emily. “5 Ways to Effectively Onboard New Hires Virtually”, TekSystems (2021).

RMIT then offered a voluntary four-hour onboarding course that introduced students to online learning. The course covered the school’s values, Australian culture, digital set-up and software readiness, the kinds of support available, a student success webinar and the course path. “It had incredibly high participation despite being voluntary, and [taking place] over Christmas,” says Ms Seitzinger. “The students were motivated and hungry for the information.”

### How to maintain productivity without burnout

Remote working can offer perks such as greater flexibility, more time with family and avoiding the daily commute,<sup>53</sup> but it can also lead to serious burnout.<sup>54</sup> The World Health Organization characterises burnout as exhaustion or lack of energy, together with negative feelings associated with work and reduced effectiveness.<sup>55</sup> It has been increasingly prevalent among workers and educators alike. A 2021 report showed that more than half of college and university faculty in the United States were considering leaving teaching because of burnout.<sup>56,57</sup> That is partly because remote workers and educators find it harder to unplug.<sup>58</sup> A 2022 report from social media management platform Buffer shows that post-pandemic, remote workers are working longer hours and having more (albeit virtual) meetings than ever before.<sup>59</sup>

To combat burnout, knowledge worker companies have focused on employees’ social and emotional well-being. The experts EI spoke to agreed that both companies and higher education should consider mental health on a par with physical wellness, which has long been ingrained in the corporate mindset.<sup>60</sup> How and when employees interact is a key component. Mr Birkinshaw cites the use of various media as a typical approach, with workers sometimes choosing audio only calls instead of video meetings to reduce the intensity of contact. Virtual commutes and designated break times are other strategies companies use to improve time management.<sup>61</sup>



<sup>53</sup> “2022 State of Remote Work”, Buffer (2022).

<sup>53</sup> “The Shortlist”, McKinsey & Company (2022).

<sup>55</sup> “Burn-Out An ‘Occupational Phenomenon’: International Classification Of Diseases”, World Health Organization (2019).

<sup>56</sup> Gewin, Virginia. “Pandemic Burnout Is Rampant In Academia”, *Nature* (2021).

<sup>57</sup> “Fidelity Investments & The Chronicle of Higher Education Study: More Than Half of College and University Faculty Considering Leaving Teaching, Citing Burnout Caused by Pandemic”, *Business Wire* (2021).

<sup>58</sup> “2022 State of Remote Work”, Buffer (2022).

<sup>59</sup> “2022 State of Remote Work”, Buffer (2022).

<sup>60</sup> Oppenheim, Serena. “How the Corporate Wellness Market Has Exploded: Meet the Latest Innovators in the Space”, *Forbes* (2019).

<sup>61</sup> “The Shortlist”, McKinsey & Company (2022).

Indeed, knowledge workers use a range of time and project management schemes to remain productive and to reduce burnout, according to Mr Smithers, who added that higher education faculty members could try out these approaches. One such scheme used by agile teams is called Sprint planning, where work is pulled out of a bucket or “backlog” and put on a board, before it is broken up into chunks and divided into tasks called sprints, with feedback embedded at every stage. Each sprint must be completed before moving on to the next one.<sup>62</sup> Some of these schemes could hold promise for higher education, and, in the case of Sprint, “...students [could] do little sprints which contribute to their overall assessment either individually, or in groups,” says Mr Smithers. “In doing that, they’re almost simulating the sort of work pattern...that you would get in a knowledge worker organisation.”

A wider trend in business towards “purposeful work”, or work that has meaning to a worker’s life and relevance to the greater community,<sup>63</sup> could also be replicated in universities. Work has to be meaningful to avoid burnout, says Dr Kellermann. “There is burnout from having to do huge amounts [of work], especially... administrative or technically frustrating things that teachers know aren’t truly meaningful.”

### How to conduct effective remote work

Remote work can create roadblocks to collaboration and community building both in the workplace and classroom. Studies show<sup>64</sup> that managers’ vision became blinkered during

early covid-19 lockdowns; they became task-focused online at the expense of building relationships and struggling to manage people via computer. “Managers [are] fairly poor at developing their own skills and broadening out their capabilities [online], and [struggle] at getting the most out of their people, giving them developmental opportunities or challenging them in a positive or effective way [through the computer],” says Mr Birkinshaw. The 2021 report from his study<sup>65</sup> showed that managers need to harness the freedom of online working by providing clear objectives and shifting from input to output-based measures of performance. They also need to be more thoughtful about the structures put in place to enable effective collaboration online.<sup>66</sup> Other research echoes this view, showing that knowledge workers are more motivated and productive when they have autonomy, mastery and purpose in their work.<sup>67</sup>



<sup>62</sup> “Huether, Derek. “Sprint Planning Meeting: A Simple Cheat Sheet”, LeadingAgile (2022).

<sup>63</sup> “What It Means. Why Purposeful Work?”, Bates College Center for Purposeful Work (2022).

<sup>64</sup> Birkinshaw, Julian, Maya Gudka and Vittorio D’Amato. “The Blinkered Boss: How Has Managerial Behavior Changed with the Shift to Virtual Working?”, *California Management Review*, Vol. 63, No. 4 (2021): pp. 5-26.

<sup>65</sup> Birkinshaw et al., 2021.

<sup>66</sup> Birkinshaw, Julian. “Managing in a Virtual Workplace – Making Use of All Possible Levers of Influence”, *Forbes* (2021).

<sup>67</sup> Shinkle, George. “The New Rules for Managing Knowledge Workers in a Post-COVID World”, University of New South Wales Business School (2021).

These challenges with remote work have been echoed by higher education faculty members. Technology can be dehumanising, chipping away at human connections, and leading to anxiety and depression.<sup>68,69</sup> The rapid switch to online learning because of covid-19 left many students less engaged and socially connected,<sup>70</sup> and teachers frustrated, anxious and stressed.<sup>71</sup>

Additionally, a quarter of faculty members surveyed by the EIU in 2020 reported that their institutions were not equipped to build a sense of community, provide mental health services to faculty and students, or offer career development opportunities. Even fewer had access to

discussion forums to share their experiences, or to professional networking opportunities and virtual social events. In the newly remote environments, educators have been asked to adopt a multitude of new roles beyond that of professor to foster and manage their online communities – such as content curators and digital producers<sup>72</sup> – and have not been offered the training or support to adapt effectively.<sup>73</sup>

Adapting to remote work and forming online communities remain significant challenges for both knowledge worker companies and higher education.



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<sup>68</sup> “The Dehumanizing Effect Of Technology”, Karbon HQ (2022).

<sup>69</sup> Emerich France, Paul. “3 Tips For Humanizing Digital Pedagogy”, Edutopia (2020).

<sup>70</sup> Wasik and Bray, 2020.

<sup>71</sup> “On the Verge of Burnout: Covid-19’s Impact on Faculty Well-Being and Career Plans”, *The Chronicle of Higher Education*, Fidelity Investments (2020).

<sup>72</sup> Kellermann, David. “Academics Aren’t Content Creators, and It’s Regressive to Make Them So”, *Times Higher Education* (2021).

<sup>73</sup> Rapanta, Chrysi, Luca Botturi, Peter Goodyear, Lourdes Guàrdia and Marguerite Koole. “Online university teaching during and after the Covid-19 crisis: Refocusing teacher presence and learning activity”, *Postdigital Science and Education*, Vol. 2, No. 3 (2020): pp. 923-945.

# Unique challenges for educators

Educators face unique challenges compared with other knowledge workers, specifically relating to their slow-to-change institutions. Most of the experts EI spoke to cited the bureaucratic structures of universities and higher education institutions as a challenge, along with a need to rethink the long tradition of seat- and time-based models to enable institutions to become more nimble. University organisational structures have remained relatively unchanged for 100 years, and so universities found themselves not agile or adaptive enough to meet this moment, says Ms Seitzinger.

**Although tech companies have a long history of rewarding innovation, higher education needs to start intentionally innovating its teaching and learning through multidisciplinary collaboration with digital-first experts.**

Although tech companies have a long history of rewarding innovation,<sup>74,75</sup> higher education needs to start intentionally innovating its teaching and

learning through multidisciplinary collaboration with digital-first experts. “You don’t just hope that [innovation] happens by giving people permission, or setting up a few rewards. You actually have to create the processes for that, and you have to train people,” says Ms Seitzinger.

## The promising transformation of some academic learning environments

Among some of the innovations higher education has offered in recent years, and which experts detailed to EI, are online courses developed as products by a team of higher education and digital-first experts whose aim is to maximise user experience (UX); completely online courses offered in four-week blocks, in which students get to focus on one subject at a time;<sup>76</sup> separate entities, such as RMIT Online, which has been set up within the university to drive innovation and scale up the design, building and maintenance of courses to drive digital transformation without losing quality; and fully immersive built-for-purpose hybrid classrooms in a prototype stage designed by Dr Kellermann to cater for hundreds of online and in-person students at the same time.

<sup>74</sup> Ang, Carmen. “Ranked: The Most Innovative Companies in 2021”, Visual Capitalist (2021).

<sup>75</sup> Kwak, Mary. “A Brief History Of Innovation, Patents And Inventions”, Inc. (2002).

<sup>76</sup> “VU Block Model”, Victoria University, Australia (2022).

In order to utilise these set-ups, educators work with established multidisciplinary teams to design and deliver their courses to maximise student experience. This collaboration has the added benefit of upskilling educators, who are able to learn new ways of delivering their course material. “Lecturers who have enjoyed the design process actually experienced it as a professional development opportunity,” said Ms Seitzinger. “Being part of that design process can be quite motivating and enriching.”

While these innovations mirror steps taken in knowledge worker companies, higher education institutions have tailored them to suit its unique learning environment. Because of the specialised demands of classrooms, where students can number in the hundreds (compared with typically

smaller workplace gatherings), student time on a course is limited often to two to three months, and there is a need to meld both online and offsite students into one lecture or lesson.

These projects fall in line with what Dr Kellermann believes, which is that higher education needs to holistically reinvent its community of inquiry – learner, teacher, learning community – for the new digital campus. Teachers should function as community and team leaders, and as mentors who shepherd students through learning, supported by learning analytics data and fully immersive hybrid classrooms that add value to the student experience. “We can seamlessly blend the online and the physical presence of students interacting in that single experience,” says Dr Kellermann.



## Conclusion



Knowledge worker companies, operating at the cutting edge of hybrid work and the new world of asynchronous collaboration, have amassed a plethora of skills and strategies to increase their holistic effectiveness and maintain worker productivity. In today's world, these companies share challenges with higher education, such as how to onboard new employees and students, how to maintain productivity without burnout, and how to conduct effective remote work. As such, higher education can adapt key lessons learned and digital tools from knowledge worker companies to evolve for the future.

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