



Has COVID-19 Changed Work- based Learning Forever?

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Acknowledgment

I would like to thank the ASET trustees for once again awarding a summer project bursary during these difficult circumstances. I would also like to thank my project supervisor, Anne Lloyd, for continuous support and engagement throughout the project.

Notes

Harvard style referencing has been used throughout this report.

For the purpose of this report a virtual work-based learning experience will be defined as ‘an opportunity pursued outside of core study to develop employability, hosted online via an external organisation. This includes degree-relevant paid work undertaken remotely, completion of a virtual internship, and, participation in online projects, amongst other initiatives’.

The research conducted and subsequent recommendations are specifically noted for the UK context.

Executive Summary

This report aims to identify the impact of the COVID-19 pandemic on the future of work-based learning experiences in the UK. The report will particularly consider the future value of virtual asynchronous, working from home/hybrid and virtual extra-curricular company project experiences, against the new UK work environment, resulting from the changes that the COVID-19 has brought about. The report will consider extensive available research to ensure a robust, balanced discussion. To further support this, the report will also include insights gained from primary research undertaken, in a form of a survey open to undergraduate students at City's School of Mathematics, Computer Science and Engineering.

In light of this the report has been split into two key focus areas:

Focus 1: The Post Pandemic UK Work Environment

The first area of focus encompasses a research-based overview of the future of the work environment, which has resulted from the changes COVID-19 has brought about, exploring PwC's research on the four worlds of the future (2018) as the basis for discussion. In line with this, this section considers key industry trends, such as climate change, flexible working, the gig economy and digital skill shortages, considering the progressive action which has been made due to the changing work environment of the pandemic. It also specifically considers the impact of a rising proportion of Millennials and Generation-Z entering into the workplace, noting the views and work-style preferences of these generations. The section concludes by offering a reflective summary into what all of this means in terms of the future of UK working practices, providing a robust foundation to discuss the future of work-based learning initiatives, with respect to said environment.

Focus 2: Virtual Work-based Learning Experiences

The second area of focus offers an evaluation of three specific formats of virtual work-based learning experience, popularised by the pandemic. The section considers positive and negative aspects of asynchronous (online content journeys), extra-curricular company projects and remote working/hybrid formats (traditional internship/placements, delivered working from home/ hybrid), paying attention to relevant equality and equity considerations. Each subsection concludes with an overall evaluation of the experience type, considering both benefits and challenges explored.

Overall Evaluation

As a result of the research into the two focus areas, the report concludes with an overall summary of what we can expect to see from the future of work, and the relevancy of forms of virtual work-based learning experience in terms of this. The conclusion explains that COVID-19 has undoubtedly changed working patterns and norms in the UK, and hence work-based learning experiences as a result are required to change, to be responsive of this, and to be accessible and genuinely valuable for all.

Recommendations

Leading on from evaluations, the report is makes clear recommendations for students, employers and universities, prior to making a final note on future research.

1. **For students:**
 - a. Understand the importance of time management and scheduling;
 - b. Have the confidence to ask questions;
 - c. Commit to building your network;
 - d. Increase digital skills, particularly in workplace collaboration platforms;
 - e. Consider the personal value add against your investment of time, being open to exploring different formats.
2. **For employers:**
 - a. Arrange regular one-to-one meetings and more live interaction;
 - b. Offer more opportunities for socialising;
 - c. Ensure consistency and clarity of experience, with clear aims;
 - d. Create a hybrid model for work-based learning experiences, placing consideration on multiple factors;
 - e. Move to an employee-centric culture, valuing and supporting each 'intern'.
3. **For universities:**
 - a. Offer additional student check-ins and advice;
 - b. Further advertisement of virtual work-based learning experiences, including more exclusive opportunities;
 - c. Embed digital skills needed for the workplace into the curriculum;
 - d. Offer an individualised approach to advice and guidance in selection of work-based learning experience;
 - e. Put student wellbeing, learning and value first.
4. **Future research:** The report notes it has been undertaken with particular focus on student perceptions of work-based learning. Further research to investigate employer perceptions would be recommended.

Introduction

Has COVID-19 changed work-based learning forever?

An investigation into student perceptions of the ongoing value of 'virtual internships' undertaken by students from UK universities to a post-pandemic society.

On 16th March 2020 the UK Prime Minister, Boris Johnson, announced “now is the time for everyone to stop non-essential contact and travel” (Institute for Government Analysis, 2021). This statement acted as a catalyst for a wide scale change in how we study, work and live within the UK. Universities, businesses, employees and students quickly reacted, moving work and study online, and halting this where online provision was not possible. In the intersection of these quick changes and cancellations lied an important aspect not to be forgotten, our students' work-based learning experiences.

Pre-pandemic, within the UK-context, most work-based learning experiences occurred in-person, within work-place settings. However, leading on from the movement to online work and study, virtual work-based learning experiences attracted a great deal of attention (Baker and Fitzpatrick, 2022). Businesses offered a range of solutions to uphold offers made and to address the “reported fall in confidence among young people around job prospects amid the coronavirus pandemic” (PA Media, 2020). Such solutions were typically branded under the term ‘virtual internship’, despite a varying scope of forms.

Research has been conducted across sectors and by academics to investigate what this term entails and the impact of such experiences, however this is yet to be combined into one comprehensive report, which clearly explains the differences in experiences included under the term, and perceptions with relation to ongoing value. In line with this, this report will analyse the future value of specific forms of virtual internship, with respect to the UK post pandemic society, making recommendations for students, employers and universities alike.

Research Aims

There are three key aims of this research piece:

1. To offer a clear overview of the post-pandemic UK business environment, with respect to workplace norms and culture, and paying particular attention to equality considerations;
2. To assess the current and ongoing value of the varying types of ‘virtual internship’, with respect to this environment;
3. To make clear recommendations for students, employers and universities on how to support genuinely valuable virtual work-based learning experiences in the years to come.

Research Design

Secondary research

As the basis for this report, a review was undertaken of available literature. This was initiated by formulating a research question: 'What are student perceptions of the ongoing value of 'virtual internships' undertaken by students from UK universities to a post-pandemic society?' and a search strategy proceeding on from this. To determine topics, the SPICE framework was utilised, owing to the qualitative nature, and the inclusion/exclusion criteria leading on from this. Through this, search terms could be determined (Appendix A), in order to proceed in the literature search. City, University of London library search was utilised to find sources, employing library recommended search techniques. In addition to this, internet searches were conducted to explore further sources, such as industry reports, blogs, news articles and social media, in order to present a range of viewpoints. All sources which met the inclusion criteria were stored via a social bookmarking tool.

Primary research

To add further depth to the report, primary research was undertaken in the form of a survey open to all current undergraduate students within City's School of Mathematics, Computer Science and Engineering (as at summer 2021). A clear inclusion criterion was devised, being that participants were required to be 'a current undergraduate City, University of London student from the School of Mathematics, Computer Science and Engineering who has completed, or who is enrolled to complete (as at summer 2021), a form of virtual work-based learning experience, as defined by the project supervisors. For reference, this definition is available at the start of this report.

Participants were required to read a participant information sheet (Appendix B) and to complete appropriate consent confirmation (Appendix C), prior to completing the survey questions (Appendix D). The survey was incentivised, offering students the opportunity to share a contact email at the close of the survey, with a £20 Amazon voucher being awarded to a student selected at random from those who shared contact details. Survey data, including additional contact details, were stored via the University Qualtrics account, only accessible to the Project Supervisor, and deleted upon completion of this report. Survey responses were downloaded and anonymised, removing contact details and referring to participants as participant A - Z, with this dataset used for analysis. There were 49 survey participants, of which 21 were in scope, completed responses, with agreed consent.

Survey data was analysed, specifically considering responses with respect to three different types of virtual work-based learning experience. Students were asked to detail the benefits and challenges they experienced, to confirm if they would recommend this type of experience, to offer advice to students, employers and universities on the type of experience, and, to share any final comments. This data will be included to inform the second focus of this report, with insights and quotations included throughout. A summary of the most common responses is included in Table 1 and Table 2, outlined on the following page.

Table 1: Benefits and challenges of virtual work-based learning experiences

Type of Experience	Number of Students	Percentage who would Recommend	Key Benefits	Key Challenges
Relevant Work Experience, completed remotely	13	69%	Saving time/ cost from travelling/ commuting (85%) Higher productivity (62%) Better work-life balance (62%)	Limited networking/ socialising opportunities (69%) Reduced opportunities for feedback (46%) Communication challenges (31%) Worse work-life balance (31%)
Company Projects, completed remotely	6	67%	Saving time/ cost from travelling/ commuting (100%) Ability to work for organisations not commutable from home residence (67%)	Limited networking/ socialising opportunities (67%) Reduced opportunities for feedback (50%)
Unpaid Asynchronous virtual internships, completing tasks individually at any time	7	86%	Saving time/ cost from travelling/ commuting (100%) Increased ability to manage work-load, alongside other commitments (57%) Greater flexibility (57%) Unique experience (57%)	Limited networking/ socialising opportunities (86%) Communication challenges (71%) Reduced opportunities for feedback (43%) Improper workspace/ resources (29%)

Table 2: Advice for students, employers and universities on virtual work-based learning experiences

Students	Employers	Universities
Time management and sticking to your schedule (19%)	Regular one-to-one meetings / more live interaction (24%)	More student check-ins and advice (33%)
Ask questions (14%)	Offer more opportunities for socialising (19%)	More advertising and more exclusive opportunities (24%)
Build your network (10%)	Consistency and clarity of experience, with clear aims (14%)	

Research ethics

Prior to engaging in the project, ethics approval was sought by the Project Supervisor. This was granted on 7th May 2021 by the Mathematics & Engineering Research Ethics Committee at City, University of London (Appendix E). As per the application, full details of ethics approval were provided to all survey participants through the participant information sheet (Appendix B), prior to their participation in the research.

Results Focus 1: The Post Pandemic UK Work Environment

Naturally for this investigation, to determine the value of different types of work-based learning experience in a post-pandemic society, the appropriate area of study to begin with is to explore what the post-pandemic UK work environment may look like. This section shall discuss findings from the secondary research undertaken with respect to this context. In particular, it will explore changes in workplace norms and culture, as well as the impact of a changing workforce, with rising numbers of Millennials and Gen Z entering into the workplace (Gaidhani, Arora and Sharma, 2019). As the basis for this section, PwC's four categories of the new workplace (2018) will be used. It should be noted that PwC's research piece was undertaken prior to the onset of the pandemic. However, this section aims to raise an argument that Covid-19 has changed our work environment by accelerating our progression towards prior trends noted (Lund et al., 2021).

Focus 1.1: Green world - socially conscientious organisations

In 2018, PwC introduced the concept of the 'Green World', suggesting progression towards a socially conscientious workplace by 2030. According to the 2020 UK Deloitte Millennial Survey (2020), such changes would be favourable amongst Gen-Z and Millennials, with matters such as climate change noted as their primary concern. Pre-pandemic, companies were already considering methods to reduce their carbon footprint, such as a review of business travel (Poom, Orru and Ahas, 2017). COVID-19 expedited this, with a move to mass scale use of virtual communication technologies, such as Zoom (Iqbal, 2021). Furthermore, pre-pandemic companies were investigating the advantages of flexible working (Chung and Van de Lippe, 2020), a trend which too has risen exponentially (Chung et al., 2021).

Whilst Gen-Z does value meeting in physical office environments for the purpose of career progression and networking (McMenamin, 2021), a hybrid-style of work could represent a valued middle-ground. This may play a key role in the move to a socially conscientious workplace, with more productive workers (Bagaskara, Hilmiana and Kamal, 2021).

Focus 1.2 Yellow world - supporting employees

This links in to the concept of PwC's 'Yellow World' (2018), suggesting the move to a more ethical and fairer workplace, with its people at the heart. Pre-covid, rising automation and use of AI was a controversial topic (Hogg, 2019). However, we now accept the value of such technology innovation, even as part of a human-centric workplace (Coombs, 2020). The use of technology has given many people more flexibility at work, such as homeworking as an option for many (Kaushik and Guleria, 2020). This links to the previous hybrid-working discussion, suggesting further benefits, specifically when enabling more flexibility over employee's working arrangements (Alexander et al., 2021). Furthermore, research leading on from the pandemic has highlighted the importance of employee emotional support to support their psychological safety (Lee, 2021). With this factor, inclusivity and balance all being key concerns for Generation Z (Jancourt, 2020), a focus to support employees will be paramount in the workplace of the future.

Focus 1.3 Blue world - to compete or to unite

Oppositely, PwC's Blue World presents a different narrative, focused on increasing size and influence of organisations, and hence higher organisational power. This world presents a competitive environment, with employees working hard to continue to enjoy company benefits, and to ensure their skillset remains in demand. However, on the flip side, this world creates a bigger socioeconomic divide, with those working for top organisations reaping benefits, and those that do not missing out.

Despite its differences to the two aforementioned worlds, post-Covid insights on the current and future workforce are supportive of some of these ideals. With younger generations increasingly anxious about their financial wellbeing (Lunn, 2020) and still considering salary as the primary factor for graduate roles (GradTouch, 2021), this suggests the desire to compete for the roles with the best pay, conditions and benefits. Such attitudes would therefore advance progress towards this world, where a select number of large companies are the main in-demand employers. However, with many young Britons seeking a socialist economic system (Institute of Economic Affairs, 2021), and to "eat the rich" (Jones, 2021), the question is will Gen Z compete against each other for the 'best jobs' or will they unite, using their collective power to create the system they are hoping for.

Focus 1.4 Red world - increasing demand for digital skills

Conflicting the power dynamic of the Blue World, is the notion of the Red World, bringing mass scale innovation, skills demands and the rise of the gig economy. Although the pandemic has supported innovation and increased demand for technical skills (Davenport, Crick and Hourizi, 2020), it has brought to light inequalities for those in contract and freelance roles (Umar, Xu and Mirza, 2021). Therefore, alongside supporting innovation and technological enhancements, companies must place consideration on the balance of their permanent and agile workforce, and how they plan to fill skills demands.

In terms of skills, employers are urging young people to increase their digital skills (Russon and Hooker, 2021). However, there is a responsibility on the government, employers and education institutions to fill this gap, offering suitable training and development, facilitating lifelong learning (Department for Education, 2021). In doing so, these organisations must also consider equitable development, aiming to increase the number of individuals who possess the skills required, whilst addressing the gender, ethnic and socioeconomic disparities (Diversity in Tech, 2021). The UK government's Cyber First campaign illustrated a poor example of this (Banim, 2020). To support a red-world ideal that genuinely works for individuals and businesses, much more needs to be done.

Focus 1.5 The post-pandemic world of work

Overall, from this investigation into the post-pandemic world of work, it is evident that technology will play a key factor. This places pressure on students, universities and employers, to ensure that all have the desire and resources to upskill in the required areas, not just immediately, but throughout the course of their careers. It also highlights an underlying duty of care of employers, to offer support to their employees, which may link

into associated benefits and conditions. Furthermore, the world is most certainly set to be hybrid, enabling benefits environmentally and individually, offering more flexibility to workers. And, finally, the world of work will be subject to the attitudes of the new generation. Whether they use the skills they have gained to compete for selected roles, or they unite, ensuring equitable access to suitable employment for all, will determine how employers must react in terms of their recruitment/ outreach approaches and human resource management over the years to come.

Results Focus 2: Virtual Work-based Learning Experiences

With such developments occurring in the world of work, it is only natural that the pandemic brought about change to our work-based learning experiences. Pre-pandemic, virtual forms had been increasing in popularity across the globe (Jeske and Axtell, 2016). However, it was in 2020, the first pandemic summer, that saw mass scale prevalence and uptake in the UK (Pittenger, 2021). This summer highlighted varying forms of experience, ranging from “a work experience placement that students can do from home” (Lane, 2021) to “short, module-based programmes designed to develop a specific set of skills” (RateMyPlacement, 2020). With a “reported fall in confidence among young people around job prospects amid the coronavirus pandemic” (PA Media, 2020), this signifies the importance of evaluating the different types of experience in terms of their associated value. The second focus of this report will therefore bring together secondary research and the results of the survey undertaken to delve into three types of virtual work-based learning experience, and student interpretations on the merit of each, relating to value-add to their employability.

Focus 2.1: Asynchronous virtual internships

Asynchronous virtual internships lean more towards self-directed online assignments (Rubin Education, 2020). Popularised by platforms such as The Forage (Forage, 2021), these typically involve short, free online exercises which can be completed within any time frame. The Forage platform, for example, hosts such offerings for a range of “innovative global companies”, including Linklaters, Accenture and BCG. The Forage aims to bridge ‘the gap between the world of work and learning’ and produce “candidates which outperform”, working with organisations to create “virtual job simulations”. In 2020, the platform hosted 82 virtual experience programmes, attracting more than 1 million students for 154 countries, growing from 13 programmes and 100,000 students (Monfared, 2021), hence indicating the increase in popularity. From our student survey, 7 participants confirmed completion/enrolment in this type of experience. Their reflections have been included in the following sub-sections.

Focus 2.1.1: Enhanced flexibility and hence accessibility

100% of respondents who completed this format noted associated benefits relating to time/cost savings from no travel requirements. Being completed from home, at times of their choosing, with no/limited live interaction, means this format does not place the burden of costs to travel to an internship. Linking with this, there is additionally no requirement to purchase appropriate clothing or to be fixed to set hours/locations to take part. In line with this, popular benefits cited also included ‘increased ability to manage work-load, alongside other commitments’ and ‘greater flexibility’, both cited by 57% of relevant respondents.

Whether students are young carers (Carers Trust, 2022), parents, supplement family income through part-time employment, or are responsible for childcare and household responsibilities (Their World, 2021), the greater flexibility of these experiences may lead to increased accessibility for students from diverse backgrounds. There also may be advantages for students who are disabled, who have faced challenges in accessing the traditional style of internship, as indicated by the Change100 Scheme (Leonard Cheshire, 2022). Asynchronous virtual internships allow not only more flexible working hours, but a longer timespan for a

project to be completed, and as a result, enable the individual to build a stronger portfolio with the addition of this experience. With less money and time spent on commuting, flexible timings, and, the ability to work from their homes, a new range of previously unreachable interns now have the opportunity to flourish.

This enhanced flexibility and accessibility also links with prior discussions on the future of work. Flexible working hours have been favoured by UK employees, particularly the millennial generation (Capability Jane, 2021). The rise of the 4-day working week (4 Day Week, 2022) highlights how we are moving away from the restrictive 9-to-5. The often unorthodox hours of asynchronous virtual internships presents a new way of working, enabling employees to manage their commitments, whilst still delivering on their work responsibilities. With progressive change occurring through 4-day week ideals, this style of internship could be valuable when preparing for the current projection of future workplace culture.

Additionally, to successfully complete an asynchronous virtual internship, the onus is on the student to be independent, manage their time, undertake further research as needed, and, to deliver. With time management, planning and research being among the most highly sought out skills for employers (Swain, 2021), this style of internship could be beneficial to equip students accordingly. Furthermore, with the rise of entrepreneurship in both Millennial (Cotton, 2021) and Gen Z (Innovation and Enterprise Team, 2019) culture, skills of self-discipline and self-study strengthened by asynchronous virtual internships, may be of benefit in navigating a new work climate, such as the world of work introduced by PwC's 'Red World' (PwC, 2020).

Focus 2.1.2: The limitations resulting from lack of interaction and networking

Such experiences have been designed to “mirror real life wherever possible and replace face-to-face work experience” (RateMyPlacement, 2020). However, this does not take away from the fact that this type of internship does not mirror *all* aspects of current and future workplace culture (only ‘wherever possible’), and hence cannot fully prepare students for the transition into such. In the survey conducted, 86% of relevant participants noted a key challenge of this experience type of ‘limited networking/socialisation opportunities’, and 76% cited ‘communication challenges’. Linking to this, Letting Agent Today (2021) notes “Virtual internships limit students to create strong networks that can assist them in their career path. An office-based internship allows you to meet with many people in different professions. But with remote working, lack of community networking is what might prevent you from reaching your greatest potential”.

Furthermore, 43% of relevant participants stated a challenge of ‘reduced opportunities for feedback’ through this internship style. Carlton (2021) adds to this, stating “Instead of a supervisor walking over to check on an intern's work, interns have to monitor their own time and stay focused while completing tasks”. This lack of active review on an intern means that their efficiency cannot be adequately tracked, with the only requisite being to complete their assigned tasks by their deadlines.

With live interaction being completely removed, this may hinder people’s ability to form ‘strong ties’ within their network, who are “more likely to give us information without having to seek it or approach them” (University of Portsmouth, 2017). This can be limiting to

students' potential growth through the internship, hence furthering the challenges resulting from lack of open communication (Werner and Jeske, 2021).

Focus 2.1.3: Evaluation of asynchronous virtual internships

To conclude, asynchronous virtual internships present a new way of working, enhancing access for students from diverse backgrounds. Not only could such a style be relevant to future working norms, but it could also aid students in developing valuable transferable skills, of key benefit to employers (Swain, 2021). However, with networking, socialising and opportunities for feedback all key elements of facilitating personal growth and employability development (Werner and Jeske, 2021), consideration must be placed into what alternatives could be offered to mimic such factors through this internship style.

Focus 2.2: Extra-curricular virtual company projects

A further type of virtual work-based learning experience is the completion of extra-curricular employer-led projects, conducted via working remotely. The pandemic illustrated benefits of technology in supporting project-based learning in the higher education environment (Al-Abdullatif and Gameil, 2021). Virtual company projects link into this learning methodology, using technical tools to support students in investigating a challenge as designed by an external organisation. Client projects sometimes form part of university modules; however, this sub-section will specifically focus on extra-curricular projects undertaken, conducted entirely virtually. The sub-section aims to offer an overall evaluation of experiences popularised by platforms such as Project Set (Project Set, 2021a), Riipen (Riipen, 2021) and through university programmes, whereby students/student groups collaborate virtually to complete a "well-defined deliverable" (Chang, 2021). In the survey conducted, 6 respondents confirmed completion of this experience. Their insights will be included within the following discussions.

Focus 2.2.1: Advantages for start-ups, SMEs and social enterprises

For companies, offering a project allows them access to talent (Project Set, 2021b) to support in addressing a set challenge/ implementing a specific idea. This can be of particular benefit to smaller businesses, who often don't have pre-defined early careers engagement and recruitment strategies (Hart and Barrett, 2009). Considering the influx of start-ups in the UK (Fitzgibbon, 2021), alongside the changing projection of work-based learning, here lies a unique opportunity for organisations post-COVID. With students becoming lost in day-to-day work from larger companies (Schwartz, 2013), virtual company projects present the prospect to make an overall larger impact, offering vital value-add to a student's CV. Particularly for smaller businesses, the students' work could become an integral part of the business's growth and reputation, all while working remotely (Chang, 2021), hence enabling benefits as noted by survey participants of 'saving time/cost travelling' (100%).

Focus 2.2.2: The enablement of international collaboration

In addition to this, project-based virtual internships allow easy international collaboration, as the lifespan of projects could be shorter and work completed at any point of the day. This also links into the survey responses, where 67% of relevant participants noted the benefit of 'ability to work for organisations not commutable from home residence'. With international

experience an influential factor on graduate employability (Byrne, 2022), this type of experience presents a further layer of benefits for students.

Focus 2.2.3: But, who pays?

The value-add for both students and employers through this type of experience is clear, however there is an underlying concern - who pays for the student's expertise and time? Typically, no compensatory incentive is offered to students, and hence this begs the question is this type of experience truly mutually beneficial?

According to research by Jisc (2021a), 62% of university students undertook unpaid work experience for more than 4-weeks in 2020/21, up from 41% in the equivalent 2018 survey. This worrying rise brings to light concerns over the social mobility of such offerings, with the Social Mobility Commission (2021, pp.37) stating "unpaid internships act as a barrier to those from lower socioeconomic backgrounds who cannot afford to work for free". Linking to this, in the survey conducted for the purpose of this report, a student stated "Even though unpaid work is helpful, I'm hesitant to encourage it, as it can be somewhat exploitative". Reflections such as these again highlight the question over the mutual benefit of unpaid virtual project opportunities.

Focus 2.2.4: Evaluation of extra-curricular virtual company projects

Therefore, prior to engaging in this type of experience, parties hence may wish to evaluate what they are investing (time, expertise, resources etc.) against the proposed outcomes. Considering these against their personal or company aims for the experience can help to determine if truly mutual benefit will be realised. Furthermore, to support accessibility for such experiences, consideration should be placed into whether these should predominantly lie within or outside of the curriculum. With increasing importance to create authentic and simulated learning experiences to engage and motivate higher education learners (Jisc, 2021b), this presents further opportunity to enhance accessibility and support mutual benefit, through offering as part of all relevant project-based modules at all universities.

Focus 2.3: Working from home and hybrid experiences

Working from home virtual internships are the virtual equivalent of the pre-covid, face-to-face internship, conducted working remotely. In line with the move to remote working for many industries, employers planning to offer a traditional experience had a choice - to cancel or to offer via this format. Particularly in 2020, where "only about a third of firms continued all their usual placements either in person or online" (Holt-White and Montacute, 2020), this internship style was 'tested' by a selection of organisations. With much larger prevalence in 2021 (Hussain, 2021), this indicates the potential of positive outcomes. From the survey conducted, 13 students confirmed completion of this type of experience. Their responses have been included to inform discussions as relevant below.

Focus 2.3.1: Mimicking of the future work environment

According to the research conducted by CIPD's study on Implications for the post-pandemic workplace (CIPD, 2020, pp.9), 40% of employers are expecting more than 40% of their workforce to work from home regularly, compared to 15% pre-pandemic. Therefore, the future of the workplace for many industries is likely to be a hybrid structure (Partidge and

Markortoff, 2021). Even though many students lost the opportunity to work face-to-face, these virtual work-based learning experiences, whether conducted entirely online or in a hybrid-like fashion, have better prepared students for the post-covid remote style of work. With platforms such as Zoom (Sherman, 2020), Microsoft Teams and Slack (McCraw, n.d.) all thriving and growing exponentially during this period, those who undertook virtual internships during the pandemic summers now have a skillset in utilising these. This has had a valuable impact on their employability, with increasing importance for students to obtain such digital skills (Russon and Hooker, 2021).

Focus 2.3.2: Communication and interaction differences

In the survey conducted for the purpose of this report, students who had undertaken this form of experience cited challenges of 'limited networking/ socialising opportunities' (67%) and 'communication challenges' (56%). However, opposingly RocketMan (2021) suggests that during the day, live talks, workshops and "virtual coffees" can be scheduled more densely, providing more opportunities to form connections than before. This suggests different experiences in terms of communication and interaction, which may depend upon individual factors. Whether students have the confidence to "ask questions" and "build their network" and organisations ensure "regular 1-to-1 meetings"/ "facilitation of socialising", cited as recommendations in the survey conducted, may influence the value a student can gain from the experience. Furthermore, Travel Assistant (2019) notes the value of real-time engagement in supporting regular evaluation and impact, enabling students to develop much faster from on-the-spot corrections and interventions.

Focus 2.3.3: Equity of experience, not equality of access - differences in home work environments

There is however a hidden pre-requisite on the student to be able to benefit from the aforementioned live engagement. Different to prior forms, this style of experience requires a suitable home working environment and strong internet connection, to effectively engage throughout all scheduled working hours. With reports such as Gravity Assist highlighting inequalities in digital access for higher education students in the UK (Barber, Bird and Flemming, 2021), this presents an underlying concern that students may not be able to equally benefit from this experience type. With students taking to social media platforms such as TikTok to comically demonstrate the challenges different home working environments can create (CaffinateDryan, n.d.), this highlights a factor not to be overlooked. Therefore, to ensure equity of experience, considerations must be placed into how organisations can support students with limited or no digital access and complex home environments to benefit as they would in a traditional in-person setting.

Focus 2.3.4: Evaluation of synchronous/ hybrid virtual internships

As explored, this type of experience may be the most likely to mimic future working norms for multiple organisations, with 85% of employees expecting to share working hours between the workplace and remote settings (Taylor, 2021). However, it must be noted that the experience will be determined by both the students' and employers' resources to effectively facilitate remote work. Furthermore, although hybrid work may be the future for many (Partidge and Markortoff, 2021), not all job-types are possible through this context and hence consideration must be placed for the virtual work-based learning experience format to mimic the employment environment norms the student will be subject to.

Conclusion: Has COVID-19 Changed Work-based Learning Forever?

COVID-19 has created permanent change across many sectors, through forcing us to evaluate every section of our lives, leading to changing attitudes surrounding work (Brown, 2020). It has pressed upon the weaknesses in our existing systems and exacerbated pre-existing inequalities in line with past pandemics (Brzezinski, 2021), such as gender differences (Chung et al., 2021), and also brought to light further factors, such as digital access issues (Zheng and Walshman, 2021). This has brought about paradigm shifts, with short and long term implications for individuals and employers to respond to (Howe et al., 2021). Naturally, this wide scale change has also resulted in adaptations and new offerings in terms of our work-based learning experiences.

This report has sought to evaluate three formats of virtual work-based learning experience, considering each with respect to their future value in the post-pandemic world. This discussion has aimed to do so, whilst also considering changes to working norms resulting from COVID-19, and the rise of Generation-Z in the workplace (Stahl, 2021). The formats discussed present changes to traditional styles of work-based learning, however the question is, will these become the 'new normal' going forward? The pandemic has enabled us to trial different arrangements to work and work-based learning in multiple contexts. Now is the time for us to reflect upon the benefits this has realised, and the challenges this has brought to light, offering a range of accessible, inclusive and mutually valuable experiences going forward.

In conclusion, COVID-19 has undoubtedly changed work, learning, and, work-based learning. However, only by delving into the detail of the benefits and challenges experienced, can we make much needed adaptations to the emerging forms, ensuring future value for employers and students alike. With the pandemic highlighting the benefits of technological progression, and, the challenges in accessing learning and work for those from diverse backgrounds, now is the time to actively commit to being part of this change. We must continue to be open to feedback and alterations as needed until we reach a place where all work-based learning experiences are of genuine mutual benefit.

Recommendations

The following section outlines proceeding recommendations for students, employer and universities to support in the aforementioned ongoing change to work-based learning.

Recommendations to students

Through the survey conducted for the purpose of this report, the following recommendations for students were commonly noted:

1. Understand the importance of time management and scheduling (stated by 19% of participants)
2. Have the confidence to ask questions (stated by 14% of participants)
3. Commit to building your network (stated by 10% of participants)

Furthermore, research conducted has brought to light further recommendations:

4. Increase digital skills, particularly in workplace collaboration platforms
Research has highlighted the prevalence of platforms such as Zoom (Sherman, 2020), Microsoft Teams and Slack (McCraw, n.d.) to facilitate work-place communication. With hybrid-work becoming the norm for many sectors (Partidge and Markortoff, 2021; Taylor, 2021), understanding how to effectively and appropriately use such tools will be vital to performing in the workplace for the majority of new entrants. Through making use of online learning tutorials, such as those through LinkedIn Learning (LinkedIn Learning, 2022), students can not only be productive from day 1, but can add valuable skills to their CV/ profile, those which are demanded by employers.
5. Consider the personal value add against your investment of time, being open to exploring different formats
With Generation Z being classed as the “sacrificed generation” (Butler and Bannock, 2021), now is the time to take control and prioritise what is important to you. With a range of work-based learning experiences available, each student can decide what the value-add for them will be, considering this against their commitments and personal circumstances. Securing a graduate role no longer depends on the brand names on your CV, but the skills and experiences you possess, signalled by a rise in strength-based recruitment (Gray, 2014). Therefore, this generation of students can make informed decisions to engage in only experiences that will be of genuine benefit to them.

Recommendations to employers and businesses

The survey conducted additionally made note to the following recommendations for employers:

1. Arrange regular one-to-one meetings and more live interaction (stated by 24% of participants)
2. Offer more opportunities for socialising (stated by 19% of participants)
3. Ensure consistency and clarity of experience, with clear aims (stated by 14% of participants)

Adding to this, research has also informed the following recommendations:

4. Create a hybrid model for work-based learning experiences, placing consideration into multiple factors
As aforementioned, hybrid models are becoming a new norm of the working world. However, as opposed to simply offering work-based learning in hybrid format, consideration must be placed into which elements to deliver remotely/in person, and the access needs arising from both formats. Companies may wish to consider the elements employees were missing from working in-person, such as efficient teamwork, defined work-life balance, lesser distractions (Hurd, 2020) and networking opportunities (Remmel, 2021), evaluating each with respect to the work-based learning context. Balancing the multitude of benefits exposed to the workforce during the remote working era with the valuable elements of in-person work, whilst also considering individual circumstances, may produce more loyal interns, aiming to become future employees. For example, as stated in the Deloitte 2020 Survey, Millennial and Generation Z workers have been more loyal to their employer whose response to COVID was preferable.
5. Move to an employee-centric culture, valuing and supporting each 'intern'
Leading on from the prior recommendation, employers should take learnings from the ideal of PwC's Yellow World (2018). With Generation Z valuing psychological safety, inclusivity and balance (Jancourt, 2020), creating a work-based learning experience environment that adheres to this will be key in offering mutually valuable experiences moving forward.

Recommendations to universities

Finally, survey participants noted recommendations for universities:

1. Offer additional student check-ins and advice (stated by 33% of participants)
2. Further advertisement of virtual work-based learning experiences, including more exclusive opportunities (stated by 34% of participants)

In addition to these, research conducted has outlined further recommendations:

3. Embed digital skills needed for the workplace into the curriculum
With the rise in hybrid working (Partidge and Markortoff, 2021) and workplace technologies (Sherman, 2020; McCraw, n.d.), universities should maintain awareness of digital skills requirements, embedding this into students' studies, where possible. Taking learnings from organisations such as Jisc (2021b), as well as maintaining industry awareness will be key in this.
4. Offer an individualised approach to advice and guidance in selection of work-based learning experience
As discussed, with such an array of both in-person and online opportunities, and now such a diversification of careers, finding a unique path for each student is essential. If you can, look at an individual's circumstances and judge where will they be able to produce their best work and the experiences they would enjoy, taking into consideration any extra accommodative aides they may need. Careers services should provide advice and guidance not just on the merit of each experience, but the individual value it could realise.
5. Put student wellbeing, learning and value first
Finally, the pandemic has left psychological scars on many young people, disproportionately affecting them (Butler and Bannock, 2021). Going forward, only

promoting experiences that will be supportive of student wellbeing, a valuable addition to learning, and, those that will genuinely realise value for the student, should be endorsed.

Recommendations for future research

This report has been undertaken from the perspective of the student, considering a balanced argument to make robust recommendations. To extend the impact of the report, it is recommended for further research to be undertaken to assess employer perceptions on the changing nature of work-based learning resulting from the pandemic, and the associated value of this in supporting their business needs. This research should particularly consider the value employers will place on the different formats of experience in candidate selection, and the changes they have made to the range and delivery methods of the experiences they offer, noting both support and resources provided to facilitate these.

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Appendices

Appendix A: Search terms devised via the SPICE Framework

Setting	UK Graduate Employment Landscape during and post the Covid-19 pandemic	graduate employment, graduate skills, millennials, Gen Z, Covid-19, post-pandemic era
Perspective	Students from UK Higher Education providers	UK university students, widening participation
Interest	Virtual internships	teleworking, homeworking, remote work experience, project-based learning, e-internships
Comparison	Internships	Work-based learning, internships, placements
Evaluation	Perceptions of ongoing value to a post-pandemic society in the UK	Future of work, hybrid working, digital divide

ETH2021-1817

Has COVID-19 changed work-based learning forever? An investigation into student and employer perceptions of the ongoing value of virtual internships undertaken by students from UK universities to a post-pandemic society

Invitation paragraph

The Professional Liaison Unit (PLU) is inviting you to take part in a research study. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Please contact the principal researcher Anne McCabe (anne.mccabe@city.ac.uk / 020 7040 3212) if there is anything that is not clear or if you would like more information.

What is the purpose of the study?

The PLU has devised the following survey to collate opinions of virtual work-based learning experiences undertaken by current undergraduates in the School of Mathematics, Computer Science and Engineering (SMCSE). This will be analysed, alongside secondary research, to inform an investigative report into the value of virtual work-based learning experiences. This report will be presented to ASET, The Work Based and Placement Learning Association.

Why have I been invited to take part?

This survey is open to any current undergraduate SMCSE student who has completed, or is enrolled to complete, a virtual work-based learning experience. For the purpose of this survey, we define a virtual work-based learning experience as 'an opportunity pursued outside of core study to develop employability, hosted online via an external organisation. This includes degree-relevant paid work undertaken remotely, completion of a virtual internship, and, participation in online projects, amongst other initiatives.'. Participants should note choosing to either take part or not take part will have no effect on assessments, marks or future studies.

Do I have to take part?

Participation is voluntary, and you can choose not to participate in part or all of the survey. You can withdraw at any stage of the survey without being penalised or disadvantaged in any way. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to provide consent via a set of tick box statements, prior to survey questions. If you decide to take part you are still free to withdraw, without giving reason, up until complete submission of your survey responses. Any data collected up until the withdrawal point will be deleted upon the final survey deadline.

What will happen if I take part?

If you decide to take part you will be asked to provide responses to a set of questions relating to your experience of virtual work-based learning. Full completion of all survey responses should take no more than 10-minutes.

What do I have to do if I take part?

To take part, you will be required to provide responses to some or all of the outlined questions, and to submit these responses, alongside consent confirmation.

What are the possible disadvantages and risks of taking part?

There are minimal risks involved in taking part in this study. The survey will be conducted via Qualtrics; all downloaded responses will be anonymised by the project supervisors and deleted post-submission of the project report. Qualtrics uses Transport Layer Security (TLS) encryption (also known as HTTPS) for all transmitted data. Hence, responses will be held securely by this platform, prior to being deleted post-submission of the project report.

What are the possible benefits of taking part?

This study will shed light on the spectrum of work-based learning experiences available, and the related student and employer perceptions of these. It will help current students to understand the range of opportunities available to them and provide insights into the differing perceived value of each of these. It also will provide beneficial insights for university careers services, aiding advice on such experiences, and, employers, providing a deeper understanding when evaluating suitability of applicant experiences.

Expenses and Payments

Participants will have the chance to win a £20 Amazon voucher. Upon the survey deadline an email will be randomly selected from the responses received. This email will be contacted within 1-month of the survey deadline to arrange for receipt of the voucher.

Data privacy statement

City, University of London is the sponsor and the data controller of this study based in the United Kingdom. This means that we are responsible for looking after your information and using it properly. The legal basis under which your data will be processed is City's public task.

Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/>).

City will use your contact details solely for the purpose of awarding the prize voucher. The only people at City who will have access to your identifiable information will be PLU members of staff. City will hold your full survey responses, including contact email, securely via Qualtrics only up until submission of the project report to ASET.

You can find out more about how City handles data by visiting <https://www.city.ac.uk/about/governance/legal>. If you are concerned about how we have processed your personal data, you can contact the Information Commissioner's Office (IOC) <https://ico.org.uk/>.

What will happen to the results?

The results of the study will be included, alongside secondary research, in an investigative report. The finalised report will be submitted to ASET on Friday 15th October 2021, and after this point, will be made publicly available on the ASET website. Prior reports of similar format can be accessed via: <https://www.asetonline.org/awards-bursaries/award-bursary-recipient/>. The results will also be used to create an informative poster, to be presented at the 2021 ASET Conference on 7th September 2021.

Who has reviewed the study?

This study has been approved by City, University of London Mathematics & Engineering Research Ethics Committee.

What if there is a problem?

If you have any problems, concerns or questions about this study, you should contact the primary researcher, Anne McCabe (anne.mccabe@city.ac.uk/ 020 7040 3212). If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee and inform them that the name of the project is 'Has COVID-19 changed work-based learning forever? An investigation into student and employer perceptions of the ongoing value of virtual internships undertaken by students from UK universities to a post-pandemic society'.

Appendix B: Informed Consent Form

Please tick
or
initial box

1.	I confirm that I have read and understood the participant information as detailed above [Dated 6 th May 2021, v.1]. I have had the opportunity to consider the information and ask questions which have been answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw without giving a reason without being penalised or disadvantaged.	
3.	I understand that I will be able to withdraw my data up until submission of the online survey.	
4.	I agree to City recording and processing this information about me. I understand that this information will be used only for the purpose(s) explained in the participant information and my consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR).	
5.	I understand that anonymous data collected will be used to inform the investigative report. Anonymous data will be both quantitative and qualitative, and may include the use of direct, unattributed quotes. This report findings will be presented at the 2021 ASET conference, and a copy of the report made open access via the ASET website (https://www.asetonline.org/awards-bursaries/award-bursary-recipients/).	
6.	I understand that I will be invited to share my contact email at the close of the survey for the sole purpose of being entered into the random draw to win a £20 Amazon voucher. I understand that my contact email will be retained solely for this purpose.	
7.	I agree to take part in the above study.	

[Student Name] [Signature] [Date]

Appendix D: Student Virtual Work-based Learning Experiences Survey

1. Are you a current undergraduate student of City, University of London who has undertaken, or is enrolled to undertake, a form of virtual work-based learning experience? [For the purpose of this study, we define a virtual work-based learning experience as an opportunity pursued outside of core study to develop employability, hosted online via an external organisation. This includes degree-relevant paid work undertaken remotely, completion of a virtual internship, and, participation in online projects, amongst other initiatives]
 - Yes, I am a current City undergraduate who has previously undertaken a form of virtual work-based learning experience
 - Yes, I am a current City undergraduate who is enrolled to undertake a form of virtual work-based learning experience
 - No, I am not a current City undergraduate/ I have not undertaken/ am not enrolled to undertake a form of virtual work **[end of survey]**

2. Please confirm the department you belong to
 - Department of Civil Engineering
 - Department of Computer Science
 - Department of Electrical and Electronic Engineering
 - Department of Mathematics
 - Department of Mechanical Engineering and Aeronautics

3. Please state the name(s) of the organisation you have undertaken/ are enrolled to undertake a virtual work-based learning experience with:

4. Please confirm which of the following virtual work-based learning experiences you have undertaken/ are enrolled to undertake:
 - Paid or unpaid relevant work experience undertaken remotely from home residence (i.e. working for an organisation for a set time period, completing tasks, using company systems and interacting live with colleagues) **[Go to Q5]**
 - Paid or unpaid company-based project undertaken remotely from home residence (i.e. completing a project as an individual or with others for a specific organisation, within a set time period) **[Go to Q6]**
 - Unpaid synchronous virtual internship experience (i.e. interacting live via a platform with other students/ employers on set dates/ times) **[Go to Q7]**
 - Unpaid asynchronous virtual internship experience (i.e. completing tasks as an individual within any timeframe) **[Go to Q7]**
 - Other [please specify] **[Go to Q8]**

5. Relevant Remote Work Experience/ 6. Remote Company-based Projects / 7. Virtual Internship Experiences / 8. Other
 - a) What benefits did you experience from undertaking [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other]? [Please select all which apply]

- Saving time/ cost from travelling/ commuting
- Ability to work for organisations not commutable from home residence
- Increased ability to manage work-load, alongside other commitments
- Better work-life balance
- Greater flexibility
- Higher productivity
- Improved application process
- Unique experience
- Other [please specify]

b) What challenges did you experience from undertaking [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other]? [Please select all which apply]

- Communication challenges
- Reduced opportunities for feedback
- Worse work-life balance
- Improper workspace/ resources
- Limited networking/ socialising opportunities
- Steeper learning curve
- Worse application process
- Other [please specify]

c) Would you have liked to undertake part or your [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other] in person, if possible?

Yes/ No/ Unsure

i) Please offer suggestion on which aspects could be facilitated in this way:

d) Overall, would you recommend undertaking [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other] to other students?

Yes/ No/ Unsure

i) Please provide any comments:

e) What advice would you provide to students on how they could maximise the value of [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other]?

f) What advice would you provide to employers on how they could best facilitate [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other]?

g) What advice would you provide to universities on how they could best support [Relevant Remote Work Experience/ Remote Company-based Projects / Virtual Internship Experiences / Other]?

9. Please provide your opinion on the value of the following experiences in terms of enhancing your preparation for graduate employment: [Very valuable / valuable/ of some value/ not at all valuable/ N/A options]

- Paid relevant work experience, undertaken remotely
- Paid relevant work experience, undertaken in person/ with flexible working
- Unpaid relevant work experience, undertaken remotely
- Unpaid relevant work experience, undertaken in person/ with flexible working
- Paid company projects, undertaken remotely
- Unpaid company projects, undertaken in person/ with flexible working
- Synchronous/ live/ time limited virtual internship experience
- Asynchronous/ time flexible virtual internship experience
- Additional online courses
- Part-time non-relevant employment
- Engagement in extra-curricular activities

a) Please offer any comments on your ratings above

10. Please share any final comments on your experience of virtual work-based learning

[End of survey]

Data privacy statement [Prior to full survey submission]

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Your right to access, change or move your information are limited, as we need to manage your information in a specific way in order for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personal-identifiable information possible (for further information please see <https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/public-task/>).

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Appendix E: Ethics Approval

Reference: ETH2021-1817

Project title: Has COVID-19 changed work-based learning forever? An investigation into student and employer perceptions of the ongoing value of virtual internships undertaken by students from UK universities to a post-pandemic society

Start date: 7 May 2021

End date: 15 Oct 2021

I am writing to you to confirm that the research proposal detailed above has been granted formal approval from the Mathematics & Engineering Research Ethics Committee. The Committee's response is based on the protocol described in the application form and supporting documentation. Approval has been given for the submitted application only and the research must be conducted accordingly. You are now free to start recruitment.