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CASE REPORT



Designing an innovative digital group work assignment to foster employability: an adaptable hybrid approach for the COVID-19 pandemic and beyond

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ABSTRACT

A strategic priority for university educators is to ensure graduates have developed a range of transferable skills. An important skill required by employers is the development of digital capabilities. The COVID-19 pandemic necessitated the move of courses into blended formats which provided an opportunity for educators to redesign their modules to embed digital skills. During this challenging context, the Biological Sciences Department at Royal Holloway, University of London, in collaboration with the E- Learning and Careers Teams, capitalised on existing Microsoft technologies to launch an innovative online group project for a first-year module. This collaborative approach to curriculum design increased capacity to pivot quickly, and readily support students, as well as ensuring that learnings from the design process could be widely disseminated. The virtual collaborative assessment had high engagement and supported the development of transferable skills such as teamwork, digital literacy, and communication. The incorporation of a guided self-reflective exercise into the assessment allowed students to evidence the transferable skills they had acquired. By frontloading these foundational skills into an assessment early in their education, we increased capacity to build on these skills in future years across the wider programme. The design, which used asynchronous online technologies, also increased the capacity of staff to fit marking and student queries around their schedules. Our findings demonstrated that through online group work and guided self-reflective assessment, students developed transferable skills that would benefit them in their future careers. This transformative approach could be utilised across other departments, both in remote and hybrid environments.

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Introduction

Students often apply to university to improve their future career prospects (International Student Survey 2020, 2021). Science undergraduates develop a range of transferable skills that are integral to their scientific education but are also highly desirable in other fields

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(Demaria et al., 2018; Scott et al., 2019). This is important as many of them do not remain in scientific research roles (Smith & White, 2017). Nonetheless, employers often believe that graduates are not always ready for the workplace (Hurrell, 2016; Mello & Wattret, 2021; Succi & Canovi, 2020; Wakeham Review Advisory Group, 2016) due to a lack of core capabilities such as digital, communication and teamworking skills (Chartered Management Institute, 2021). At the same time, over the last decade or more, universities have been ranked by their ability to develop graduates who have a good range of employability skills (QS Quacquarelli Symonds Limited, 2022). In the UK, the Teaching Excellence Framework and the Graduate Outcome Survey (GOS) continue to assess universities' ability to provide the labour market with work ready graduates. This has all led to an increasing number of science degree courses ensuring transferable skills development is incorporated into curriculum design and assessment (Hill et al., 2020; Schultz et al., 2022).

One method of developing a range of employability skills is with the use of group work. The Biological Sciences Department at Royal Holloway, University of London runs a first-year compulsory skills-based module 'Becoming a Bioscientist' which includes a group work assignment to address some of the skills gaps among the students. Initially this involved groups of five or six students working together to conduct an experiment based around nutrition and subsequently creating a museum exhibit to communicate their findings to the general public. Engagement was sporadic; this could have been due to students feeling uncomfortable working with strangers, being dominated by stronger personalities or simply due to difficulties finding suitable times for all team members to meet regularly. Marking the assessment was completed on a single day when the assignment was exhibited. A single mark was awarded to the team for the exhibit and the way it was presented.

The COVID-19 pandemic and the subsequent lockdown led to the entire assignment being restructured. Changes to staff workload and the student journey necessitated a redesign that afforded the department greater capacity to pivot in the changing landscape. Course leaders had to rethink their approach to group-based assessment design and focus on generating authentic collaboration and engagement at a time when isolation and social distancing would significantly impact the students' ability to work together. This meant incorporating some of the new collaborative technologies that were becoming available, both to include more social learning opportunities, but also to frontload additional digital skills development which would be crucial to student success during the pandemic and beyond. Academics also needed a way to be able to mark the assignment remotely.

The newly redesigned group work assignment required students to analyse an original research paper together using remote access tools. Students were required to summarise the paper and use the article as a starting point to further research the topic. The key findings and insights were then communicated on a website aimed at a general audience. The objective of the assignment was to collaborate effectively in a group, developing key transferable skills whilst building an engaging and interactive website around their assigned topic.

By designing an assessment that focused on developing skills, the hope was that the department could strengthen the self-adaptive capabilities of the students, enabling them to more readily respond to the rapidly changing learning environment brought about by the pandemic, with the conceptualisation and consideration of skills often seen as a key capacity building initiative (Morrison, 2001).

The use of group work to develop transferable skills

Team-working or collaboration are often cited as one of the skills that graduate employers are looking for (Bhardwa, 2021; Suleman, 2016). Group work provides students with an opportunity to develop a range of skills, including interpersonal and communication skills, adaptability and leadership (Gillies & Boyle, 2010; Hammar Chiriac, 2014; Jacqui, 2020; Shah, 2013). However, group assignments can be an uncomfortable experience as students with different temperaments, backgrounds and prior knowledge need to work together (Gillies & Boyle, 2010; Hammar Chiriac, 2014). These challenges replicate those faced in the workplace and allow students to encounter some of the complexities of working with peers but in a safe and supported environment (Blue, 2023).

While independent thinking is vital in science, it is through collaboration that scientists are tackling some of today's global challenges (UNESCO, 2022; World Economic Forum, 2021). Good teamworking skills should therefore be an integral part of the scientific education.

One of the aims of our module and the group work assignment particularly, was to build a sense of community as this has been shown to enhance learning (Maunder, 2018). The 2019 COVID-19 pandemic exacerbated concerns around group dynamics with first year students lacking the ability to form relationships face-to-face. We therefore needed to develop an assessment using the new technologies becoming available, that allowed students to engage with each other remotely to replicate some of the benefits of face-to-face group work. Studies have found that establishing connections between students early in their university journey builds capacity for the success of future group projects and prevents barriers to student engagement and peer learning caused by isolation (Lister et al., 2023).

The initial iteration of this assignment developed transferable skills but the addition of technology to facilitate group work provided students with skills that would support them not only throughout the pandemic, but also in the workplace where adaptability to new technology is crucial (Skills Development Scotland, 2018).

The change from face-to-face to remote group work

Technology has revolutionised collaboration between countries, industries and institutes, making digital communication an integral part of all career sectors and so students must have the digital skills to compete in a global market (Department for Science, Innovation and Technology, 2023). Recent studies outline the role of technology in education and the benefit to students and academics in developing digital capabilities for the future (JISC, 2022; Starkey et al., 2023), whilst also contributing to a relatively new area of study highlighting the role of the pandemic in the widespread adoption of new and existing technologies in Higher Education (Hodges et al., 2020; Sobaih et al., 2021; Tan et al., 2022).

At a time when social isolation and loneliness was prevalent, developing the ability not only to participate effectively online, but to truly belong in an online environment was a common challenge in universities and beyond. Many students were fearful about their ability to cope with current circumstances, the impact on their mental health and also how their experiences would impact their future employability (Brennan et al., 2023)

In response to the changing landscape, it was necessary for our students to work together to complete their project remotely, a reality only made possible by online learning platforms. During and prior to the pandemic, staff readiness and preparedness had been a challenge to adopting technology in teaching, group work and assessment (Lassoued et al., 2020; Sobaih et al., 2021). However, with the support of a cross-college project team encompassing academics and E-Learning and Careers Teams, we were able to ensure both staff and students could upskill quickly in the integration of existing technologies which enabled the shift to remote group work. Although most of the teaching during COVID-19 could be categorised as an emergency response (Hodges et al., 2020), our aim was to produce a new assessment design that would support the development of digital skills and build capacity for the longer term. While the brief of the new assignment for the students was to develop an engaging website, the learning outcomes ultimately focused on developing a range of transferable and digital skills.

To aid the students in working together, remote group work was made possible with the use of Microsoft technologies. New research is highlighting the role of these types of technologies in developing online communication, fostering student friendships, and supporting collaboration and group working (Atkins & Cole, 2010; Henderson et al., 2020; Tan et al., 2022; Vogel & Wood, 2023). In choosing the Microsoft 365 Collaboration Suite, students were exposed to technology with a wide market share and 'more than 200,000 organizations and 190 million people have SharePoint for intranets, team sites and content management' (Microsoft, 2022). This means that students developed practical skills with wide-reaching real-world applications. In our case, students were not only gaining new digital skills but were also asked to regularly reflect on their group work to specifically highlight some of the other transferable skills that they were developing.

The importance of reflection to embed skills and build capacity

Students acquire and develop many transferable skills during their university education, yet graduates are not always able to identify and articulate them when applying for jobs (Tomasson Goodwin et al., 2019). Students often specify only directly related subject specific skills and fail to acknowledge 'soft' or transferable skills that they have developed over a range of different activities. A number of recent studies have explored how reflective practice focusing on the transferable skills students have acquired during their academic work, as well as understanding the skills they still need to develop, can enhance their employability (Scott & Willison, 2021) and prepare students more adequately for both the graduate selection process and job market more broadly (Mello & Wattret, 2021; Sarkar et al., 2019).

Self-reflection is a skill that needs to be practised, supported and developed over time (Mello & Wattret, 2021) and science students can find reflective practice particularly challenging and therefore could benefit from practising this skill early on in their academic journey (Voelkel et al., 2018). Incorporating a guided reflective skills assessment into this compulsory first year module, gave the students a weekly framework to provide scaffolding and support to start to develop the ability to write reflectively early on and to identify other important transferable skills they were learning. This led to greater awareness of the skills learnt

throughout the project and how they could be developed further during their university education.

In this paper we describe the development of the assignment using the collaborative technologies that became a significant part of the response to the COVID-19 lockdown. We also highlight how technology facilitated the students' skills development and supported guided reflective practice, building capacity in the curriculum. This redevelopment of assessment informed our ongoing blended approach to teaching; this included how technology can be adopted to free up capacity in staff workloads and add flexibility to marking and handling student queries. We also make some initial observations and evaluations of the value of this type of assignment.

Methods

Study cohort

The study cohort was the entire first year intake of September 2020 to the Department of Biological Sciences ($n = 164$) who were enrolled on a skills-based module BS1021 'Becoming a Bioscientist'. At this time, due to travel restrictions and social distancing measures, approximately half the cohort had to study remotely.

Student assessment

There were two components to the marking of this assignment. The first, worth 30% of the module grade, was a group project which tasked students with developing a website. The second, contributing 10% of the module grade, was an individual written reflective skills summary of 500-words.

Group project

The group project was designed to meet the learning outcomes of the course. Students were randomly assigned into groups of five and each group allocated one of three research papers. The three papers were linked by the theme of climate change but focused on different topics: crop yield (Sultan et al., 2019), salinity in drinking water (Khan Aneire et al., 2011) and fungal growth (Gange et al., 2007). Students were required to analyse their assigned paper, research the specific topic more widely and then use the information they had gathered to create informative and engaging webpages. Lectures in the module included experimental design, interpreting and presenting data, statistics, good communication and literature reviewing to support the students with analysing and summarising their research. Once students had gathered their information, they could begin designing their websites using SharePoint (Modern) pages. Each group was awarded a mark based on the website quality.

Online guided reflective assessment

Reflection on skills gained was also incorporated into the formal assessment process, as this has been found to be effective in ensuring learning is embedded (Hill et al., 2020).

Each week the module coordinator would remind the students of the relevance of the lecture they had just had to their assignment and encourage them to reflect on the skills they were developing and to write up their diaries. The diaries were kept in a private Microsoft OneNote notebook assigned to the student and therefore not assessed. A template was provided to help students focus on specific skills (Figure 1).

Diaries were helpful for the students to refer to when writing their final guided reflective assessment. The reflective assessment was marked by the personal tutors. The diaries acted as additional scaffolding to prevent all student queries and concerns appearing close to the assessment deadline when tutors often have less capacity to provide support.

For the assessment, the students were required to identify the skills they developed during the group project and critically analyse the way the team worked together. To support the students with this process and give context to the importance of developing transferable skills for future employability, the Careers Team designed and delivered two sessions, one at the beginning and one at the end of the group project work. These careers sessions explored what transferable skills were and their importance to graduate employers in all sectors. The sessions also introduced the students to the concept of personal development planning (PDP) and its importance in supporting career development longer term. Sessions with students' personal tutors were incorporated into the department's tutorial structure where students were encouraged to discuss their reflective diaries and PDPs. However, in having a specialist team member input directly into the teaching and assessment design, students and tutors benefitted from specific support quickly and easily.

Week #	Reflections/Thoughts
Overall thoughts on team progress.	
Transferable skills used with evidence.	
What other transferable skills do I want to use/develop further?	

Figure 1. Reflective diary template – students were provided with a template to support them in structuring their observations and reflections. The template was duplicated and filled-in once per week.

Use of technology in submitting and marking the assessment

The whole assignment was conducted using Microsoft 365. Before the pandemic, use of the Microsoft 365 software suite was extremely limited at the university, but the tool (particularly the Microsoft Teams App) became increasingly important as students were required to undertake additional elements of their normal learning experience remotely (Supplementary Material 1). An early appreciation of the tool's potential, as well as a willingness from the E-Learning and Biological Sciences teaching teams to upskill on the tool quickly, proved to be crucial in developing this assessment and rolling it out to students during a period of uncertainty at the height of the COVID-19 pandemic.

Over the course of the pandemic, at Royal Holloway a Microsoft Team was created for all modules to support the transition to remote learning, but academics had free choice of how to set up their team in terms of channels and apps. To facilitate the group work, each team of students was given a private channel within the main module team which enabled both synchronous and asynchronous communication through chat or live video calls. A SharePoint tab was included in each channel to allow students to create their websites.

While the population of the team was linked to enrolment in the virtual learning environment (VLE), separating the cohort into their channels was a manual process. Private channels were used to ensure a degree of separation between each group, so both discussions and webpages were visible to the teacher and group members only but not the wider cohort. Students were encouraged to use the channels to communicate as this meant notes, conversations and meeting attendance could be reviewed by all team members which helped if there were disputes within groups relating to individual participation. Microsoft OneNote digital notebooks were also made available within each group's Microsoft Teams channel for collaboration.

As part of the project, each group member was granted permissions to create and manage their Microsoft SharePoint (Modern) pages but teachers, who were team owners, could view and administrate all sites. Although new to the tool, students got to grips with it quickly. SharePoint provided significant benefits; it was intuitive and easy to use, offered an opportunity to develop digital skills common to the workplace and was readily available within our university's existing Microsoft 365 portfolio. Being able to repurpose an existing platform, at no additional cost and with no lengthy procurement process, was particularly valuable given the tight time constraints for the assessment development.

Templates were provided to students for page building, allowing for the customisation of a column-based layout around a particular colour theme, while optional web-parts supported the addition of different content types such as documents, quizzes, text, video, and images. SharePoint also allowed students to embed resources produced elsewhere (e.g. YouTube videos), which helped groups to manage workload, foster digital skills and encouraged students to critically evaluate the external resources and their suitability for scientific audiences.

A seamless check-in and check-out system for site pages allowed students to identify who was working on which pages when they needed to collaborate synchronously, while students could also work on documents offline and then synchronise them to the site

when connectivity allowed. All activity was logged, and teachers could monitor the contribution of each group member, including a full version history of any page created. This level of integration meant that upon visiting the relevant Microsoft Teams' channel, it was possible for teachers to get a real sense of the group dynamics and individual contributions within the digital learning environment. Technical support to students was provided throughout via a combination of Microsoft's own resources, bespoke help-sheets created by the project team and an online support forum located within Moodle (VLE). The E-Learning Team and Biological Sciences staff worked together to answer students' technical queries and encouraged the students to support one another in learning and exploring the software. The forum was set up so that students could not only post questions, but also contribute to one another's queries and discussions – a measure that increased the support available to all students whilst saving time for the assessment team.

When the submission date was reached, students' editing permissions within SharePoint were revoked which prevented them making further changes to their websites.

As both the group and the individual reflective elements were submitted online, assessors could monitor the groups and mark the assessment asynchronously with the use of digital tools, something highly valued during the pandemic when workloads were high. When markers gave feedback, they used a bespoke rubric designed for the assignment which was incorporated into the online marking platform for simplicity and efficiency. The whole team were given the same mark for the websites by the assessor, but some peer marking was achieved through the upload of feedback forms which were factored in so that final grades reflected individual contribution.

Results

Integrated applications on a single platform allowed all students to engage

There were 30 groups of students who all submitted a website. The quality of the websites was assessed based on the marking criteria rubric (Supplementary Material 2) and included marks for ease of navigation, clear information and interactive content.

Communication methods on the websites included pictures, videos, interactive images, quizzes and links to further websites (Figure 2). As well as creating SharePoint pages, students also used other Microsoft 365 applications such as Excel to create charts, and Forms to create quizzes and questionnaires for the websites.

86% of students interacted using the Microsoft Teams chat or meet functions, while 26 out of the 30 groups used their team's OneNote notebooks for collaborative planning demonstrating that students were able to work together despite the wholly remote environment. Engagement was also occurring outside Microsoft Teams as WhatsApp messages were often mentioned on channel posts.

The grades for each website ranged from 37.14–97.14% with the average score of 68.85%. The pass mark was 40% which meant that only one group failed. Fourteen groups achieved a first-class mark, seven an upper second-class and four each of lower second and third-class. The crop yield paper showed the widest range of marks. Websites that focused on salinity achieved only top-class marks (Table 1). The

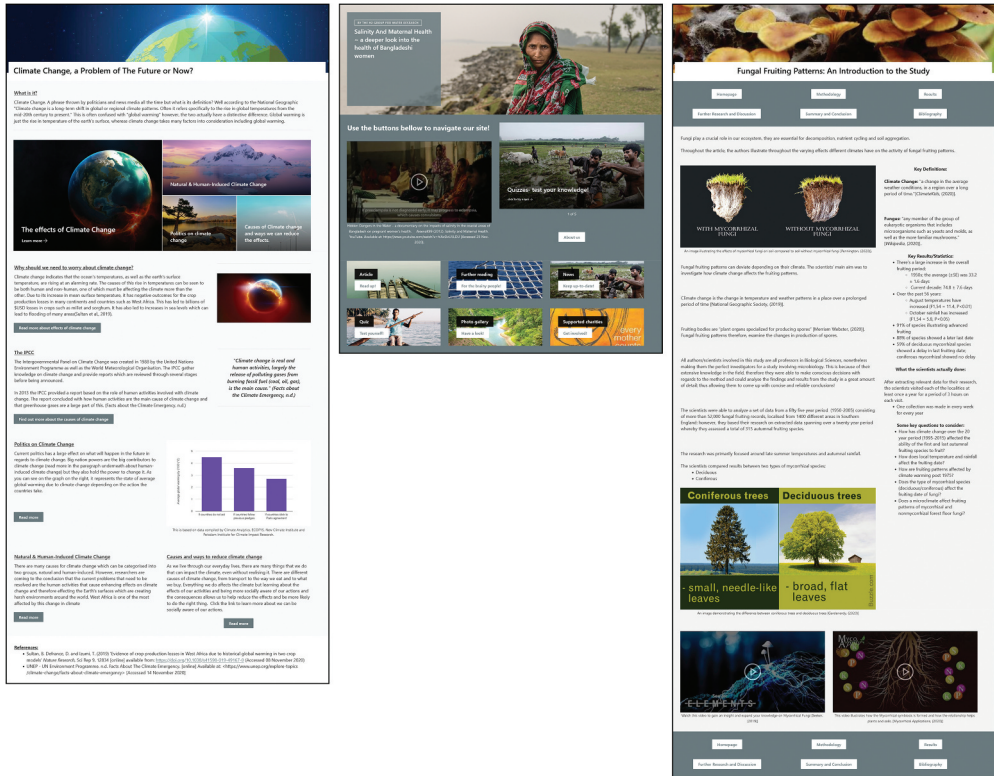


Figure 2. SharePoint homepage – students were allocated three separate topics related to climate change. Shown are examples of three homepages relating to (a) crop yield, (b) drinking water salinity and (c) fungal growth. This illustrates that there were design similarities between the modern pages including the use of images, videos and quizzes, despite the different topics.

Table 1. Grade classification – shows the number of groups that achieved each grade classification for each of the assigned papers.

Grade Classification	Crop Yield		Salinity in Drinking Water		Fungal Growth	
	No. of Groups	%	No. of Groups	%	No. of Groups	%
1	4	33.33	7	77.77	3	33.33
2:1	1	8.33	2	22.22	4	44.44
2:2	2	16.66	0	0	2	22.22
3	4	33.33	0	0	0	0
F	1	8.33	0	0	0	0

difference in the grades achieved between groups with the three different papers could be due to less interest in a specific topic. However, a more likely explanation is that the data in the crop yield paper was too complex for the students to understand and summarise. Going forward, we need parity between all papers used in the assignment.

Reflective summaries showed that students were able to identify their transferable skills

All students submitted a reflective summary for assessment. The grades ranged from 48–100% based on specific marking criteria within a rubric (Supplementary Material 3).

Evidence gathered from the reflective commentaries demonstrated that all students were able to identify at least two transferable skills that they felt they developed over the duration of the group project. The skills the students developed were diverse. The skills most frequently highlighted in reflective commentaries were communication, leadership, and collaboration (Figure 3). Students also identified more personal attributes as part of their development during the project such as an increase in patience and motivation.

Students had identified skills that would be valuable in the job market and ranged from creativity (through designing the website) to collaboration with new team members (who they were initially anxious or reticent about working with) and many cited leadership developed through managing the project team. The students also demonstrated an ability to critically evaluate their own performance through their reflections, often giving examples of areas where they could have improved their performance or further developed their skills. Some cited examples of developing the ability to edit other peoples' work and giving and receiving feedback. The development of technical and subject specific skills were also reflected upon, such as learning to use SharePoint and the ability to simplify scientific techniques and approaches to be understood by non-scientists.

In addition to identifying skills developed, the students were required to highlight skill gaps they intended to fill over the course of their university degree. These gaps were based on job requirements for aspirational graduate roles using the PDP framework introduced within the module. Establishing the reflective practice in relation to PDP early builds capacity for programme leaders to be more flexible



Figure 3. Common skills – a word cloud displaying the most mentioned skills in student reflective commentaries.

when thinking about employability interventions in other modules. Reviewing and updating the PDP is now being incorporated into the tutorial session in subsequent years of study.

Furthermore, by embedding the skills development within the curriculum, the assessment design ensures all students complete the module and have access to the career development opportunities it provides.

Discussion

The changing context provided opportunity for collaboration and capacity building

The pandemic was a challenging time for academic departments, where swift changes had to be made in a context of increasing workload and uncertainty around teaching mode. At Royal Holloway, this was seen as an opportunity to build flexibility and capacity into our module design, as well as a chance to collaborate with new colleagues in the professional services teams in ways that hadn't been established previously. This new cross university collaborative approach to curriculum design benefited students, who were able to participate in a newly developed and exciting group assignment that would help establish important skills for future career development.

The value of the new assessment design to students is clear. Assignments requiring reflection have been found to develop the student's ability to become more aware of their improved capabilities (Jorre de St Jorre & Oliver, 2018; Mello et al., 2021). Studies have shown that sharing reflections and receiving feedback can improve performance further (Radović et al., 2021). The increasing digitisation and formalisation of students' skills development and reflective practice, enhanced through the weekly diaries, reflective assessment and PDPs, has made it more efficient for students to identify and recall skills linked to specific tasks. This has allowed academics to track these skills in new and exciting teaching initiatives, such as a digital e-portfolio solution going forward. It is our hope that encouraging students to build on their reflective practice with different online platforms will consolidate their skills over the longer term (Hill et al., 2020; Mirriahi et al., 2018).

The value of online collaboration

A common concern with group work is that it can cause feelings of uneasiness (Rosander et al., 2020) and that it is often characterised by student resentment over real or perceived workload inequalities (Nicholas et al., 2022). Despite this, educational literature shows that group work has many benefits in enhancing transferable skills (Gaudet et al., 2011; Taylor, 2011) and collaboration is an essential skill required in the workplace (Chartered Management Institute, 2021). Employers often seek graduates who are skilled in team-working and have good communication skills (Suleman, 2016). More recently employers are also looking for the ability to work effectively both in person and online (Nesta, 2018; Swain, 2023). Our newly developed assignment enabled students to effectively work together remotely and could be adapted to a hybrid approach, where students can work both face-to-face or remotely depending on circumstances. Hybrid working is now

becoming well established in the professional world of work. Therefore, we intend to keep the assignment in its present form, particularly given the benefits of the remote elements to academics who were able to monitor student progress and mark work asynchronously.

Integrated applications on a single platform allowed students to engage in a digital environment

Collaborative technologies have helped to connect research and business (Chakravarty, 2004; Koslow & Huerta, 2000), yet students often have mixed feelings towards collaborative digital group work (Ku et al., 2013). The COVID-19 pandemic demonstrated the importance of technology and communication in addressing global challenges and highlighted the need to connect people remotely – a reality that all students on this module experienced first-hand.

During this time, Microsoft 365 and particularly Microsoft Teams became an important tool in higher education (Henderson et al., 2020; Poston et al., 2020) and one which we have used to develop the digital literacy skills of the students on this module. Although the students were initially concerned about the need to upskill on new technologies, the integrated nature of the Microsoft 365 suite supported students to adapt and learn quickly.

While SharePoint has been used in educational settings in response to COVID-19, previous case studies have focused on its role as an ‘intradepartmental distribution platform for educational materials’ (Hiti et al., 2021), essentially having the tool fulfil the role of a VLE. While this highlights the suitability of the software to the educational sector, we selected it due to its potential to support the students in developing digital capabilities and working collaboratively. The range of digital apps within Microsoft 365 ultimately allowed the students to gain experience in a range of software desirable in the job market, from video conferencing to web design.

One important facet of the student experience was the students’ new role as participants of their digital environment and the assessment design gave students the ability to review the impact of online activity, manage digital reputation and project a positive online identity; all important digital capabilities (JISC, 2022). The assessment also allowed students to take on a range of different roles in the digital environment as a student, peer and leader, as well as allowing them to participate in a variety of ways. Students participated casually via Microsoft OneNote collaborative spaces and in a more orderly way, with a greater degree of online presence, via group meetings, formally in live teaching spaces as well as informally in channel chats. It is possible that these opportunities helped the students to develop their digital identities and ‘netiquette’; improving student confidence and building their capacity to adapt and support one another in developing a positive online persona. When viewed through this lens, it’s possible the digital space may have had a positive effect on the students’ sense of belonging and engagement (Office for Students, 2021).

On a broader note, some students reflected that participating in the group project made them feel more connected to the university and supported the development of friendships at a time of national isolation (Figure 4).

"The fact we are given the opportunity to work in groups and this has meant that I have gotten to know my classmates better which has been harder this year to do."

"It allows us to become comfortable in aspects of science that aren't taught in our other modules which makes it transferable"

"At the beginning of the coursework I found it difficult to find motivation...but by the end of the webpage development, with help of my group, I found the ability to motivate myself."

"Towards the last few weeks of the project we definitely excelled in our teamworking and communication skills"

"Overall the group worked well...being creative with the presentation of website and communicating well in both updating work and linking our research together."

Figure 4. Student feedback – a selection of feedback that students provided about their experiences of the assessment as part of their reflective commentary.

Engagement with the assessment

A further benefit of the assessment design was that engagement was also more easily tracked within the digital environment where activity in Microsoft Teams could be monitored by tutors and group members.

The level of engagement was higher in this electronic assignment than in the previous face-to-face approach. Students' perspectives based on the reflective assessment suggest that this increased engagement could be due to the desire to feel part of a community while in isolation during the pandemic. However, it may also have been due to the ability to easily vocalise their opinions and views. Students with anxiety or those who lack confidence may find it easier to express themselves online, compared to traditional group settings where certain personalities may dominate (Dunaway & Macharia, 2021). This online assignment may therefore be more accessible to all students.

In hindsight we would have surveyed students prior to the start of the assessment to understand their confidence in collaborating remotely as this would have been a completely novel experience for them at the time. This assessment was developed as a response to an emergency situation rather than as a controlled study. However, in addition to their reflective commentaries where students discussed their skills development, it was also reassuring to note anecdotal examples where students used evidence from their group project in job applications, as identified by the Careers Team following one-to-one appointments. In the future, further discussion with students would give evidence of the impact of the group project and assessment on graduate outcomes.

Playing to the strengths of the assessment design team

The redesign of the assessment was focused on improving collaboration among students. However, another positive aspect of this teaching innovation was the close collaboration

between the departments of E-Learning, Careers and Biological Sciences. This approach, which involved all three teams from the outset and throughout the assessment design and delivery, had a positive impact in terms of student support but also saved on staff workload, allowing each team member to play to their strengths and collaborate effectively. While the impact of the COVID-19 pandemic was felt across all Higher Education institutions, early research has suggested that academic staff took on much of the work independently (Bartolic et al., 2022). In a recent study when staff were asked about the support they received or sought, most reported 'I did all of it on my own' (Bartolic et al., 2022) demonstrating the social isolation prevalent at the time and the desperate need to increase capacity for staff through collaboration.

Throughout this course the team co-developed the assignment and support model, keeping in touch regularly through online communication. It's possible this worked well as established learning support models have suggested that the design and delivery should involve staff with different areas of specialism, rather than having course production teams and student support teams working in silos (Stevens & Kelly, 2012). This approach also facilitated the dissemination of learnings to other departments across the university and allowed the team to quickly respond to student queries, something that was valued by learners during the pandemic (Pagoto et al., 2021).

Adaptability of the assignment

A final benefit of this assignment is its adaptability for other contexts. For example, the academic papers used in the assignment can be changed to reflect departmental research interests or current topics. The aims of the websites can also be adapted to ask students to develop something specific to a particular audience. Such changes would not impact the technology used or the learning outcomes, thus demonstrating the ease with which the assessment model can be used across other subjects and disciplines.

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Notes on contributors

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Authors' contributions

Shobana Dissanayeke – module organiser, designed assignment, drafting and final approval of manuscript and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. *Rebecca Lewis* – technical advisor, customised the online learning environment and selected the integrated apps for the assessment, drafting and final approval of manuscript and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. *Siobhan Swindells* – careers consultant, designed reflective assessment, drafting and final approval of manuscript and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethical approval

Ethical approval was granted by the Royal Holloway Ethical Committee Ref. no. 3072–17 January 2022-17-18.

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