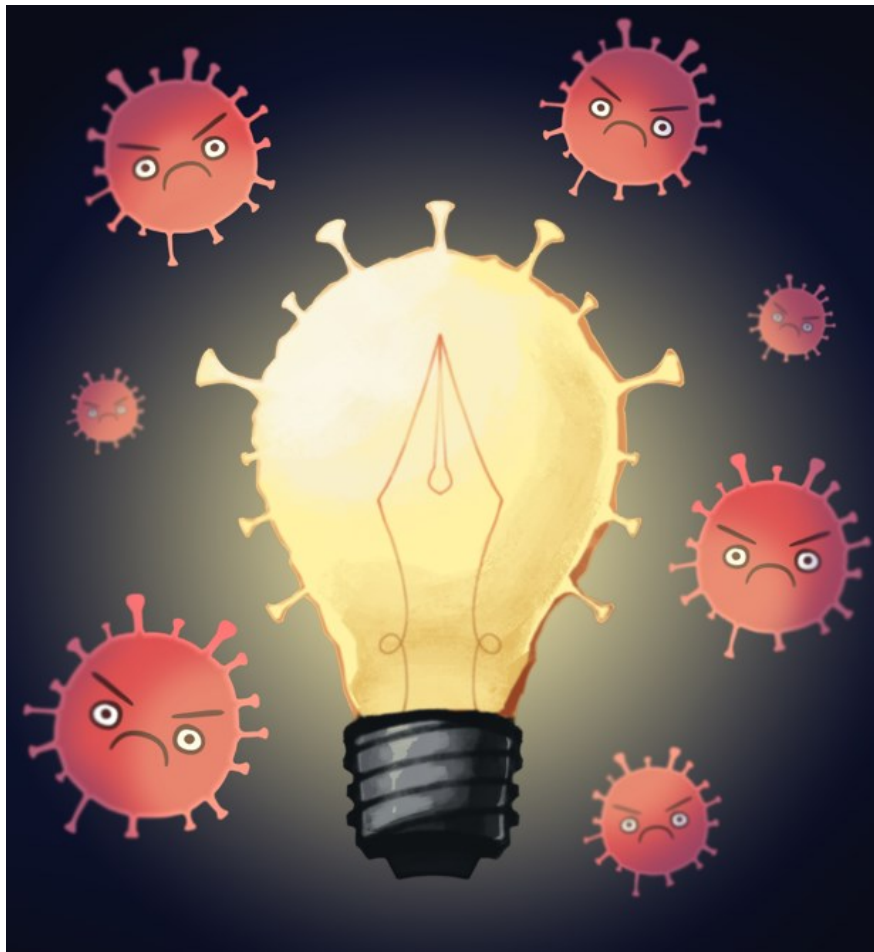# CAM 20 December 2021

Creative Explorations & Practices Emerging from the Pandemic

A Selection of Articles from the e-Book

Being Creative in the Face of Adversity: Annual #creativeHE collection 2021
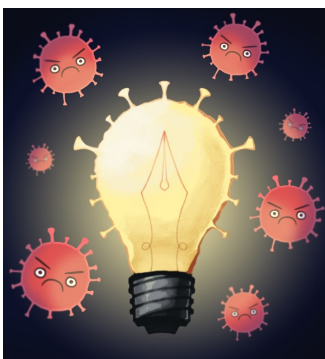
Is the Magazine of the Creative Academic and #creativeHE communities. It is an open access on-line journal published two or three times a year under a Creative Commons Licence for the benefit of Higher Education educational practitioners and anyone else who is interested in our work.

The magazine provides a vehicle for: 1) exploring the many dimensions of creativity, 2) sharing ideas, practices, experiences and research, and 3) curating the content of discussions in the #creativeHE facebook group www.facebook.com/groups/creativeHE/ . It features and curates content that relates to the themes of:

- creativity in everyday life and in all types of practice
- creative teaching and learning practices
- the encouragement and support for students' creative development
- the strategies used by universities to encourage, recognise and reward staff and student creativity
- creativity as an ecological phenomenon
- The conceptualisation of creativity and creative practices

The magazine is compiled and edited by Professor Norman Jackson sometimes with the help of one or more Guest Editors. We welcome contributions that align with our mission and values. If you would like to contribute please contact the editor lifewider@gmail.com

Cover Illustration by

Ody Frank - Current digital art student looking to pursue a creative career. https://www.artstation.com/odydigitalart ody.digital.art@gmail.com

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Introduction

Necessity is often cited as the mother of invention and the pandemic certainly created new necessities, requiring teachers to use their imaginations and creativity to invent new practices to meet the needs of their learners and fulfil their own intrinsic needs to be a creative human being. The pedagogical challenge of the pandemic is perhaps comparable to the pedagogical challenge of the rapid shift in the UK to mass higher education in the early 1990's.

As Maslow[1] and later Alderfer[2] demonstrated our unmet needs create powerful psychological and emotional motivational forces that drive our actions and learning in ways that enable us to adapt and create. Higher education academic teachers are drawn to the profession because they care about their discipline and want to contribute to advancing knowledge in their fields. But they also care beyond their own needs – they care about helping their students to learn. They know that through their important work as a teacher, they are able to unlock the potential in their learners to enable them to make their contributions to the world. In this way higher education builds capacity for individuals to not only cope with a challenging and turbulent not too distant future, but also to flourish in that future. And, we know from those who forecast the future[3], it will demand the creativity and ingenuity of humanity to create a planetary world that is sustainable and regenerative, and a social world that is fair, just and equitable that meets the needs of the whole of humanity.[4]

The pandemic forced many educators on-line which afforded new opportunities for creative adaptations of existing teaching strategies. But the complexity of adaptation is illustrated in the words of one contributor, Adéṣínà Ghani Ayẹni, who shared his experiences of trying to learn on-line. *"There are many students in Africa that are keen to further their education on the international network of computers; but certain drawbacks wouldn't allow them to attain their desires. These drawbacks include high tuition fees, expensive textbooks, electricity, and access to the internet respectively. In my case, the tuition fee was not a problem because I am enjoying a free education scholarship that covers all tuition fees and all my course materials are free and open. However, I almost forfeited my classes due to unreliable electricity supply and the only way out to resolve this is to purchase fuel to power the generator for electricity."*

You might say that setting the contributions to this magazine in the context of the global problem of sustaining the future of the Earth and mankind is OTT. But it is the emerging reality of our time and my hope and take away from the pandemic is that people continue to respond creatively to the necessities and realities of their particular circumstances and use their imaginations and agency to collaborate, seek and find new opportunities to overcome adversity. This is the context for the creative work of the #creativeHE community of higher education teachers in 2020 and 2021 which this collection of stories seeks to celebrate.

The pandemic is teaching us valuable lessons for the future. It shows us that we need to pool our creative resources and work collaboratively and imaginatively with the challenge of sustaining the world and all the life it supports. I have come late to the realisation that sustainability is the new mega context and challenge for human creativity. A recent discussion of this proposition in the #creativeHE Facebook forum, recognised that living a life for a future that is more sustainable requires imagination and creativity that is motivated by caring enough about something or someone to act in ways that enable that something or person to exist, persist and to flourish. In the context of caring about needs beyond our own, our imagining and creativity are in the service of enabling others and other things to flourish, rather than the more traditional ways of viewing creativity in the service of innovation - of creating new things. The profession of teaching brings both of these meanings together – teachers have to invent and bring into practical existence new practices in the service of enabling learners to flourish.

It should come as no surprise that teaching and education are at the heart of what Thomas Berry calls the 'Great Work'[5] for humanity. The Great Work of a people or era is the co-creation of an overarching movement and it is what advances civilisation. The pandemic has given our civilisation a battering but it is teaching us valuable lessons. Firstly, it is teaching us that we are all connected. The rapid spread of the virus through populations and across frontiers shows us just how connected we are. Secondly, it is showing us that when faced with global threats we need to work together and pool our resources— including our creative resources. According to Berry, the Great Work now confronting humanity is the transformative effort to change human-Earth relations from disruptive and destructive to mutually enhancing and beneficial. We have yet to discover the truth of how humanity came to be infected with the Covid virus but it would not surprise me if we have brought it on ourselves through our disruptive and destructive behaviours.

Imagination and creativity are at the heart of the generative capacity of humans and we must be expansive in our vision of what our imagination and creativity are for. We should recognise that what teachers are doing to encourage the creative development of learners, and each other, is also helping to build capacity and potential for a more sustainable regenerative future,[6] since it is this generation of learners who will be grappling with a future that is far from sustainable.

The great work now, as we move into the new millennium, is to carry out the transition from a period of human devastation of the Earth to a period when humans would be present to the planet in a mutually beneficial way

Thomas Berry
'The Great Work'

Ten stories of creative teaching and learning

The collection of stories we are curating in the first part of this issue of the magazine, has been selected from the "Annual #creativeHE Collection" e-book[7] edited by Nathalie Tasler, Rachelle O'Brien and Alex Spiers. The editors have done a wonderful job in stimulating interest in the #creativeHE academic community, drawing together 30 diverse contributions from 60 authors, educators and students, from the United Kingdom, Slovenia, Nigeria, Canada, Italy and Germany. Their contributions capture creative and resourceful practices during the pandemic that show the authors' determination to create stimulating environments for learning in spite of the restrictions brought about by the pandemic.

Creative Academic has an enduring partnership and collaborative relationship with the #creativeHE community and it is a privilege to be invited to include a selection of articles written by members of the community in this issue of the magazine. I selected ten stories from the e-book which I personally found interesting and they are faithfully reproduced in the following pages. We thank all the contributors for their generosity.

4C & 5C interpretive frameworks

Creative Academic seeks to understand and explain creativity as a phenomenon in higher education and beyond so the issue also includes an interesting article by Hansika Kapoor and James Kaufman, who explore creativity in the pandemic using the interpretive framework based on the Four C model of creativity[8]. This enables us to appreciate the bigger social, environmental and cultural dynamic within which higher education teachers make their own distinctive professional contributions. I have also taken the opportunity to once again call for an educational (ed-c) domain[9] within which the important role of education in encouraging and facilitating the creative development of people, can be recognised.

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Norman Jackson
Commissioning Editor

Being Creative in the Face of Adversity:
Ten Stories of Creative Teaching & Learning
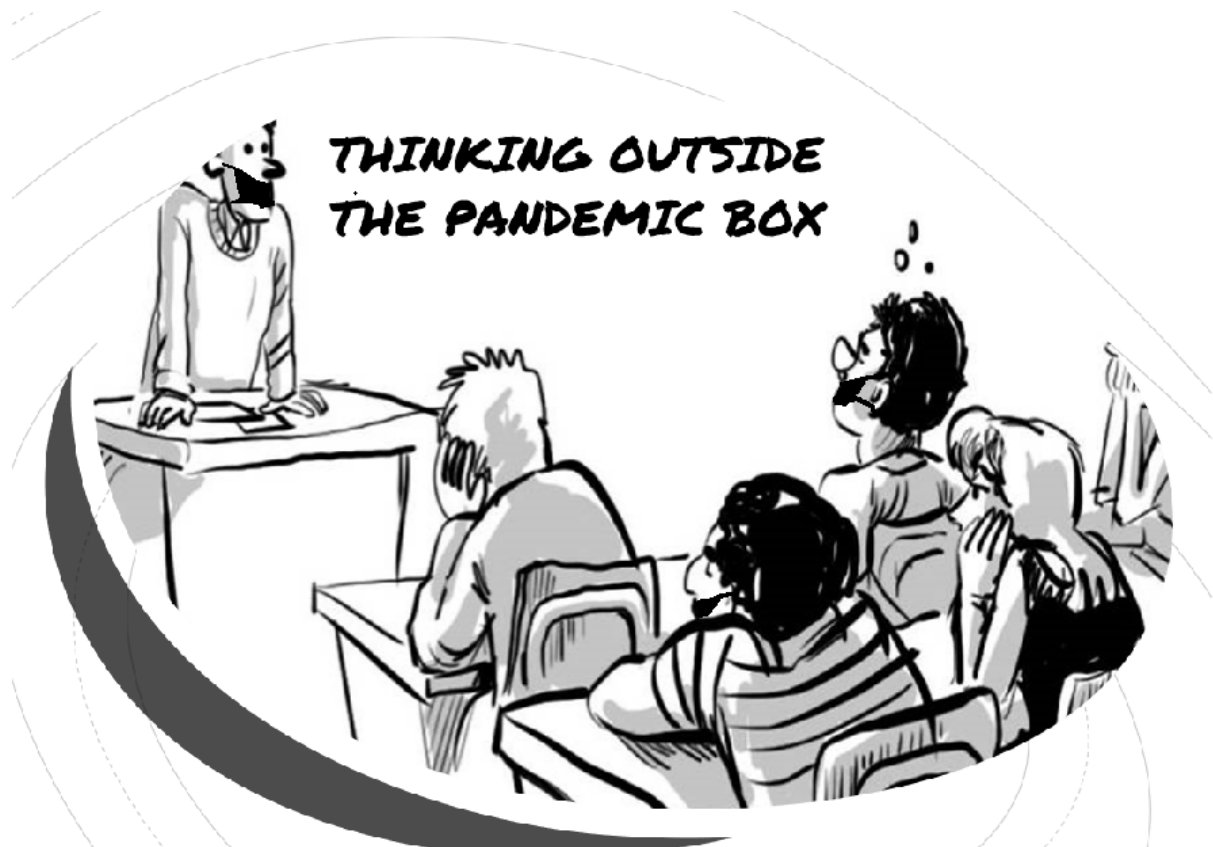
Higher education academic teachers are drawn to the profession because they want to help others learn. But learning is fundamental to their own practice as a teacher and researcher and they need to devote considerable effort and time to activities that serve their own learning needs. Without this they will advance their understandings of their discipline or develop the pedagogical knowledge and skills to advance their teaching practices.

Amongst the community of educators there are people who devote their lives to helping other professionals learn and develop, for example staff and educational developers, curriculum developers, employability coordinators, and learning technologists to name a few. They devote their time, skill and creativity to facilitating the learning and development of their colleagues and beyond. They facilitate interactions between people who would not interact with each other without their intervention and they create new opportunities and infrastructures that facilitate social interaction and learning. Several of the articles which follow highlight the imaginative creative work of such practitioners.

Celebrating Pedagogy and Scholarship:
The National Teaching Repository and
how it supports creative and open practice
Dawne Irving-Bell

Dr Dawne Irving-Bell is a Senior Lecturer in Teaching and Learning development within the Centre for Learning and Teaching at Edge Hill University. She has extensive experience of working in secondary, further and Higher Education settings. Her research interests focus mainly upon the influence of personal on the formation of learner identity, pedagogy, and pedagogical approaches to learning and teaching within STEM subjects. Dawne is a Senior Fellow of the Higher Education Academy and in her current position leads on university-wide strategies to enhance student learning.

The resource
The National Teaching Repository (NTR) is an open educational resource (OER) established to facilitate the sharing of educational resources for everyone. Sharing practice is easy. There is no need to register or create an account and uploading work, using the submit link, literally takes just a few minutes. The NTR is a safe and secure space where colleagues can disseminate their learning and teaching, proven in practice pedagogical research and resources. Sharing practice benefits the learning and teaching community, but as this short article explains it has additional benefits including giving colleagues a global platform to shout about their brilliance!

Protection for authors
The National Teaching Repository is a searchable database, built using a secure platform called Figshare which is housed at Edge Hill University. Work is curated by a team of like-minded colleagues, who support authors to share their practical pedagogical resources and scholarly research. In submitting their work authors can choose their own level of Creative Commons (CC) licencing. At all times work remains the academic and intellectual property of the author(s).

Authors may assign an existing DOI to their work, or request one for each item uploaded. Authors can link their work to their ORCID IDs and also signpost work to existing repositories, personal websites or institutional spaces. In assigning each piece of work uploaded a DOI the academic and intellectual property of the authors work is protected. The system generates a citation that enables others to recognise the use of colleagues learning and teaching research and resources. Protecting academic and intellectual property.

Securing evidence of the impact of your practice!
We all know how difficult it can be to evidence the impact of our scholarship and learning and teaching practice, so in sharing authors can use the data generated as evidence of the impact of their practice. For performance review, internal and external promotion, fellowship applications and progression pathways for example.

The NTR collects interactions of others' engagement with work. Using Almertic data authors can see views, downloads, the number of engagements on social media and secure data in a number of formats including tables and global maps.

The system enables authors to share their scholarship in multiple formats including audio/visual, media, video, visual including posters and also data. Where work uploaded requires updating the author can share revised work 'overlaying' it over the existing submission to ensure continuity of metrics.

Creative intervention
My rationale for founding the repository was quite simple, to support colleagues. This is achieved in two ways. Firstly, by offering support in facilitating easy access to amazing resources. Secondly, to support colleagues to secure evidence of the

impact of their scholarship on learning and teaching practice not only within, but beyond their institutions, and in doing so secure recognition for their academic and intellectual property and practice. Through the publication of their practice supporting them to build confidence and increase their profile.

The concept was developed from work undertaken to share best practice within and across my own institution. Following an extremely successful conference presentation in 2019, using funding secured from Advance HE I developed the repository.

Lessons learnt

The NTR was established in September 2020 and in just 12 months it has received over 55,000 views and downloads. That equates to over 1,000 colleagues worldwide every day accessing the space to seek inspiration to help shape and improve their practice. The data indicates an incredible global reach with 58% of activity being in the USA.
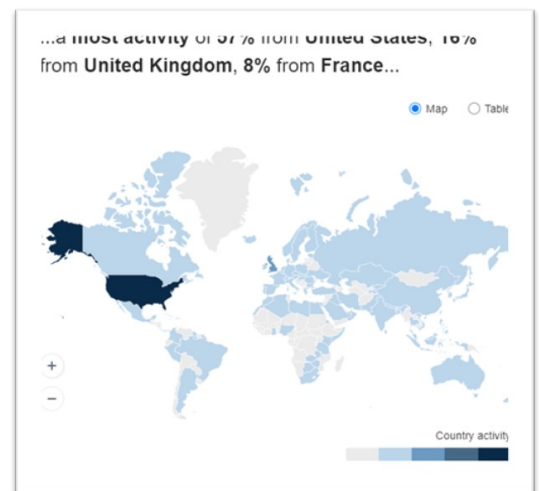
In addition to the space providing a much-needed space for colleagues to search for and access learning and teaching innovations, colleagues who have been sharing their practice have reported many benefits including promotions and successful fellowship applications.

Drawing from the breadth of research and resources shared on the repository, our next steps include more formal publications. To include the production of the Excellent Resource Series of 'Proven in Practice' texts to support colleagues across the sector, with our curators' becoming series and section editors.

Developing links with more colleagues across the globe. Other than that I'm not 100% sure! I'm always open to ideas to make the space better. So, if you would like to become a curator, critical friend or if you have any suggestions please get in touch!

Useful links and resources
- Discover research from the National Teaching Repository: https://figshare.edgehill.ac.uk/The_National_Teaching_Repository
- Why not share and secure recognition for your SoTL research and resources? Sharing is simple!
- For more information view this video presentation: https://doi.org/10.25416/NTR.15152094.v1
- Read our welcome presentation: https://doi.org/10.25416/edgehill.12673016 and meet our curators and critical friends: https://doi.org/10.25416/edgehill.12820727.v13
- FAQs: https://doi.org/10.25416/edgehill.12674687.v6
- Follow the NTR on Twitter: @NTRepository
- Click here to share: https://figshare.edgehill.ac.uk/submit

Workshopping Creatively Online
Chrissi Nerantzi and Javiera Atenas
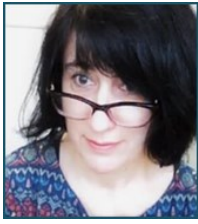
Dr Chrissi Nerantzi is a Reader in Academic CPD. She works in the University Teaching Academy at Manchester Metropolitan University and is an Adjunct Professor at the University Nova Gorica where she team taught the Workshop module on the MSc in Open Educational Leadership in 2020/21. Chrissi is the founder of #creativeHE and co-founder of Creative Academic with an interest in open, creative and collaborative learning.

Dr Javiera Atenas is a Senior Lecturer in Learning and Teaching Enhancement at the University of Suffolk and an Adjunct Professor of Pedagogy at the University of Nova Gorica in Slovenia, where she team taught the Workshop module on the MSc in Open Educational Leadership in 2020/21. Her interests are around open education policies, critical data literacy and academic development.

The pandemic brought a tsunami of changes to higher education institutions across the world. Most face to face taught programmes moved fully online and enabled the continuation of learning and teaching despite very challenging circumstances for humanity worldwide. This rapid transition required resourcefulness and creativity to seek solutions that are simple, flexible and stimulating, for students and educators.

The authors of this case study, team-taught the Workshop module of the MSc in Open Educational Leadership during the Summer Semester 2020/21, remotely. The programme is open to educators and other professionals interested in developing a deeper understanding about open education and actively contribute to local, national, and global developments in this area and take on leadership roles. The programme consists of a series of core modules and optional modules that enable students to pursue personal interests in specific areas. The Workshop module aims to create opportunities for hands-on practical experiential learning through open education projects that are of interest and importance to students. All modules were offered fully online from the beginning of the academic year 2020/21. The University of Nova Gorica had invested in the digital platform MiTeam to support learning and teaching online for all their courses including this one. However, we know that the technology on its own will not make it happen. Sound pedagogical approaches are needed to enable active learning that stimulate curiosity in students, and motivates and engages them in creative, critical and meaningful ways.

What follows are key interventions of the teaching team in the Workshop module to enable creative and critical learning and deep engagement throughout and what we as educators have learnt through this process.

Creative intervention
Within this section we describe the creative approach used to design and offer the Workshop module fully online during the summer semester 2020/21. Despite the reality that creativity can often pose challenges to institutions and is often rejected and stopped [1, 2], we noted that during the pandemic, creativity and resourcefulness were perceived as more welcome and needed than ever before and many educators engaged in experimentation and innovated in their practice driven by the desire to make a difference to their students' engagement and learning.

Active and experimental: The teaching team had the module descriptor and saw this as an invitation to bring the module to life. The key goal was to make the module participatory, active, and dialogic to bring in diverse experiences, aspirations, and interests of students [3,4]. The Workshop module should not just be called Workshop but also be experienced as a workshop and do what it says on the tin. And all this fully online. A challenge we turned into an opportunity to design alternative learning and teaching experiences[5]. However, some of these were beyond our control, such as internet connection and electricity for example as this is not a given in all countries. The pandemic really illuminated the extent of digital inequalities locally and globally and the negative impact this has had on learning and teaching and how exclusive it can be[6]. We took these challenges into consideration and aimed to create an inclusive experience as much as possible for all our students using a range of approaches and strategies.

Our prior experiences as online educators, online students and open educators and researchers, as well as our knowledge and understanding around pedagogies and adventurous attitudes and tactics to teaching, enabled us to be brave and dare to try new approaches. As we felt that it would be valuable for students to work closely together, we paid special attention in creating multiple opportunities for them to get to know each other but also the teaching team, work and learn together using a roadmap to follow a route towards designing the projects. The module after all aimed to create applied and experiential learning instances, equip and empower students to design and construct their own open education projects.

Organised and evidence-informed: The Workshop module consisted of 5 live workshops which were complemented by an online communal learning space within LinkedIn:

The live workshops were complemented by self-paced activities and autonomous study. Activities and assessment were aligned to the learning outcomes and a digital portfolio was used to capture the process of learning and specific outputs. A template was provided, media rich artefacts could be used, and the portfolio was developed within the shared Google Doc folder for this module. Guest speakers, who had specific expertise linked to the topics of the module, were invited to host some of the live workshops and inspire our students. The final exam, a professional discussion with the module tutors, was an opportunity to celebrate learning and engage in a creative reflective task.

Our broader pedagogical approach was evidence-informed and evidence-based. A review into a series of pedagogic empirical and conceptual frameworks and models that support digital learning and collaboration has shown that the following four elements are key in being effective[7,8]: 1. Tutor support, 2. Activities, 3. Choice and 4. Community. These were taken into consideration when designing the Workshop module and underpinned the approach developed and used.

Transparent and collaborative: A transparent and collaborative approach was developed using social media such as a shared Google Doc folder where all learning and teaching resources and activities were hosted, available to the whole group. This transparency also translated into being human as educators and students. We didn't hide our vulnerability and the personal challenges we experienced and used our humanity as a connector[9]. We showed understanding, empathy and were respectful of each other. Remaining positive and focusing on the students' experience and their success were key. Furthermore, during the sessions, students were invited to complete the tasks directly via the dynamic Workshop presentation that was used throughout the module and grew by contributions from the teaching team, students, and guests. This helped us keep everything in one place, speed up the process of locating useful resources to specific tasks, work together in pairs, present the work completed and peer review it also. This way of teaching and learning also enabled us to model open and ethical practices and help us all reflect on its benefits and challenges.

We had a small group of students, four in total. This enabled personalised, collaborative and peer-to-peer learning in a range of ways and tutor support that was responsive to the needs of students and manageable. However, we did not want to create dependencies and tutor support was scaffolded towards empowering our students and progressively leading to autonomy while also harnessing the power of peer-to-peer learning. Activities for socialisation and learning and peer support were build-into the live workshop sessions and students were encouraged to continue working together beyond these and progress their projects and learning. Each live workshop had a clear structure with breaks built-in and active learning opportunities to scaffold engagement and make it relevant to students as these could be used by them to pursue their personal interests and open education projects while also collecting evidence towards the assessment for their portfolios.

Lessons learnt

Our own reflections, anecdotal evidence from students and the assessment outcomes suggest that the approaches we used and the risks we took were effective for students' learning and stimulated their interest in open education and also enabled them to engage creatively and develop open education projects that will make a difference to their professional communities. We are taking away the following learning from the Workshop module:

Openness: Our transparent approach worked well and helped us create a sense of community but also troubleshoot and resolve issues as they were appearing and experiment and use more creative approaches to learning, teaching and assessment. The openness in the live workshops was present throughout. There was however only sporadic engagement in between the live sessions, something that could be explored in future iterations but perhaps this can also be interpreted as a sign of students' autonomy.

Trust: Trust that it would work, trust in ourselves, trust in each other, trust in our students. But also the trust of our students in us and the offer we had put together. Without trust it would not have worked. Often creative interventions are rejected because there is a lack of trust and a closeness of mind. We managed to open students' minds and/or keep them open and embrace something new. We took them on a journey, we all went on a journey together and while this brought discomfort to all of us, in different ways and for different reasons, t also enabled us to explore new territories, learn and develop.

Flexibility: It was good that we had a plan and that it had flexibility built-in. The active and participatory learning approach and our guests brought the module alive. Being alert during the module was key and quickly respond to challenges and make changes as we were experiencing these to secure the smooth running of the module and create a valuable learning experience for our students and maximise learning opportunities and take-aways.

We [add a link to one of the openly licensed portfolios submitted by one of our students](). Enjoy! And one of our students kindly agreed to reflect on their experience as well, which you will find in the next article.

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Reflecting on My Online Workshop Challenges
Adéṣínà Ayẹni (Ọmọ Yoòbá)

Adéṣínà Ghani Ayẹni otherwise known as Ọmọ Yoòbá is a multimedia journalist, digital right activist, anthropologist and OER developer with interest in the creation of open content in the Yorùbá language of West Africa. Adéṣínà is a professional translator, Yorùbá Lingua Manager for Global Voices, and the founder of Yobamoodua Cultural Heritage, a Language Service Provider and Yorùbá information services organization.

I have participated in a couple of online workshops in the past; however, the Workshop for Open Education Practitioners is a different experience that will linger for a long time in my mind. One reason being that it is one that prepares me towards the attainment of my Master's in Open Education (OE). The other reason is for the fact that the module is conducted by two professionals in OE, making the education process interesting to follow through.

Aside from the perfect content of the module and the knowledge gained during the cause of the workshop, I must commend my institution, the University of Nova Gorica for the paradigm shift to online pedagogy in the current trying times that made it possible for me and other students to participate in classes during the pandemic. Had the online workshop not ensued, my education would have been delayed. Perhaps I would have had to wait for the pandemic to end to proceed and there are no indications that things will change any time soon as the effect of the pandemic is still very much in the air.

There are many students in Africa that are keen to further their education on the international network of computers; but certain drawbacks wouldn't allow them to attain their desires. These drawbacks include high tuition fees, expensive textbooks, electricity, and access to the internet respectively. In my case, the tuition fee was not a problem because I am enjoying a free education scholarship that covers all tuition fees and all my course materials are free and open. However, I almost forfeited my classes due to an unreliable electricity supply and the only way out to resolve this is to purchase fuel to power the generator for electricity.

The onus rests on me to provide internet bandwidth to gain access to my classes online, which was a another problem, for the reason that internet data is expensive and video conferencing consumes a lot of bandwidth, plus the fact that the download and upload speed is sluggish and unreliable, resulting in audio delay and poor signal. The image below is a crop edit from a computer Print Screen, showing the download and upload of my internet bandwidth.

In addition to the above, for a reason beyond my understanding, I could not attend classes because my country's Internet Protocol (IP) blocked access to the university's MiTeam platform. All efforts to connect to the platform proved futile and I became downhearted. Virtual Private Network (VPN) became the only tool available for me to circumvent the blockade and I am grateful that I had taken some MOOCs on internet circumvention, privacy and security, it helped me greatly. I had to rely on a free VPN client, which I downloaded on my laptop and selected the countries whose Ips are used to access the MiTeam website. On a regular day, most VPNs are not outrightly free to use, so I depended on the free 10 gigabytes provided by the VPN for my classes. Talking about the workshop on the OE module, it showed me new ways to organize and design a full-fledged online education. Through the workshop, I became more aware of effective strategies, tools and resources that can propel my Open Education career. Two important lessons that I learnt are peer-review and teamwork.

In regard to my project on the creation of Open Educational Resources (OER) in the Yorùbá language titled; OER Yorùbá, I faced the challenges of sourcing free images cum videos in Yorùbá language on OE, as well as translating the OER from English to the Yorùbá language. Since it is paramount to have open resources in all languages of the world and for a language like Yorùbá which hitherto has inadequate materials and is a low-resource language on the web, my project is key. To achieve my goal, I relied on the abundance of open resources in the English language available on the internet which was localized to my native language. The major challenge that I faced while translating the open resources was choosing the best diction for Open

Education registers. To drive home my point, I had no option than to coin new terminologies that have not been used elsewhere for my project. Having done that, the translated texts were recorded into audio format, the English infographic was adapted for the Yorùbá version, and the synchronization of the audio and images suffice for the audio-visual content.

I drew a diagram, reflecting on the workshop module. The diagram combines emojis and clip-arts to showcase my reflections on the module. Above the image is the callout on module quality which combines websites, PDF, video content and synchronous live video classes. On the middle left is the success of my learning process, with a spike in percentage in the year 2021 compared to three years ago, while the callout below indicates the precious takeaways from the workshop viz., teamwork; collaboration; openness. On the right is my accomplishment in the workshop highlighting the knowledge acquired from the different OE evaluation models, design models, learning analytics, etc, and underneath is the obstacles encountered and solutions provided. There is a head in the middle of the diagram with a Yorùbánative cap, that is me!

Lessons learnt
All said and done, during the course of my tutelage by the two great educators, I learnt the power of collaboration and teamwork for a common goal. In addition, the workshop broadened my horizon on the recent practices in the world of Open Education and Online Learning in particular.

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Multimodality and creativity in new forms of distance learning assessments; exploring University students' perspectives during the pandemic

Charalampia Sidiropoulou, Panayiota Christodoulidou and George Topalidis
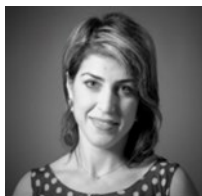
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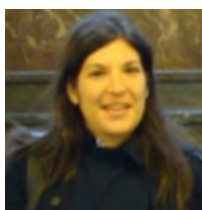
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George Topalidis, is a Lab Teaching Staff in the Department of Products and Systems Design Engineering, at the Faculty of Engineering, University of Western Macedonia, Greece. His research interests revolve around political science and international relations, design and marketing research and communication studies in the context of applied social sciences

Framing

The topical quest for alternative, (more) creative practices of assessment in Higher Education (HE) is currently attracting the ever-growing interest of academics and researchers working across disciplinary fields and domains of study. Our common professional interests, as teachers in HE classrooms coupled with our 'shared imaginations'[1] to participate actively in this venture have primarily prompted our reflective pedagogical thinking about (our) designs and methods of e-valuating student learning and in the process sparked off the design of a small-scale research study.

The site of research

We have embarked on this study during the coronavirus pandemic with the aim to explore the experiences and perspectives of HE students attending an undergraduate programme at a London University. The site of our research comprised an 'interdisciplinary research methods' module designed for first-year undergraduate students. This is a core module on an undergraduate honours degree that incorporates both arts and sciences subjects. The module seeks to familiarise students with a range of qualitative methodologies and tools for data collection and analysis. Although we were not involved in the curricular design of the module, one of us had previously contributed to its teaching as a seminar tutor. Due to the implications brought about by the COVID-19 outbreak, all the teaching and the coursework was completed online via distance learning methodologies. The aim of this module was to support students in understanding the key principles entailed in designing interdisciplinary research projects, which investigate topical issues in our contemporary communities. Each cohort of students in each seminar group was divided into two/three groups of 5-6 peers who were encouraged to select a topic of their own interest.

The module instruction followed the lecture/seminar style and the assessment strategy comprised a number of individual and group assignments, all of which contributing towards the final student mark albeit with varied weighting. Specifically, the coursework components comprised a group video diary, an individual research report and a group research proposal.

Initially, students were expected to contact three University academics from diverse disciplinary backgrounds (e.g., engineering; psychology; biology; political sciences), whose research was pertinent to their group's chosen topic. Examples of

topics suggested by students comprise 'the effects of vaccinations on young people'; 'trends of sustainable fashion'; 'sustainable urbanism' and others. Each group prepared and conducted online individual semi-structured interviews of approximately thirty minutes, audio-recorded via zoom, and then transcribed and analysed their data using a thematic approach.

Throughout the process of undertaking the interviews, students were expected to create a reflective video diary that would be focusing on the strategies they had devised for finding participants to be interviewed, and would encapsulate the challenges they might had encountered in recruiting participants, as well as their experiences of conducting online interviews. The video diaries contributed towards 10% of the total student marks. Students were encouraged to present their methods of undertaking a thematic analysis of the interview material and to identify the possible strengths and weaknesses of exploring a topic from an interdisciplinary lens.

Secondly, the assessment design comprised a peer assessment component. Students were asked to give anonymous feedback to their group members regarding the level and quality of their engagement in the production of the video diary. Equally important was that the feedback to team members was constructive, especially given that all students would have to work with/in the same team until the end of the module. Importantly, peer e-valuations contributed towards the students' individual marks on the video diary assessment.

Thirdly, students had to compose an individual short written report (1500 words) outlining their small-scale research and discussing two-three key themes that emerged from the group analysis of their interview data. The weighting of the individual coursework was 40% of the student final mark. In line with the guidance provided, the individual reports should outline the research aims/ objectives; methods and findings while focusing on two-three clearly defined themes arising from the interviews.

For the fourth and final assessment students had to collaborate with their group peers in order design an interdisciplinary research proposal (20000 words) with the purpose to persuade the reviewers (module tutors) that it should be funded. To this end, students were asked to work both individually and collaboratively in order to develop an understanding of the diverse stages involved in designing an ethically appropriate, interdisciplinary research study; and to (co) author the different parts of the proposal (i.e., research focus/questions; literature review; methodology, ethics; time-frame; cost plan; impact and dissemination). Group proposals contributed towards 40% of the individual students' marks.

The module assessment strategy comprised opportunities for formative feedback in the context of online presentations to the seminar tutors and peers, of (parts of) the developing research proposal. It is worth noting that a fifth assessment was initially integrated in the module design, stipulating that upon completion of the written proposal, each group of students would undertake a pilot study of the research proposal, during the summer term. The findings of the pilot would then be disseminated via an oral group presentation, which would also contribute towards the final marks (10%). However, the module team decided that the group presentations would be postponed due to the pandemic conditions and the additional pressures that were created on students' learning journeys.

Research focus and theoretical lens in tracing learning, creativity and assessment

Notwithstanding our brief (given the space limitations) description of the module design and assessments, we hope that its inherent potentiality for stimulating a plethora of opportunities for creative, meaningful, multimodal learning experiences from the part of the students is readily apparent [2]. Indeed, the multifaceted character of the module design coupled with our common interest in visual and multimodal assignments prompted our curiosity to take a closer, systematic look.

To this end, we collaborated in carving out a research study that would enable us to explore these questions in more depth. Our prime goal was to explore students' experiences in engaging with less conventional academic practices and forms of assessment. We were further interested in tracing the kinds of texts students created; what resources they used; how they deployed them to fulfil their situated purposes; and what these might tell us about the complexities of tracing student learning; the possibilities of new forms of assessment of academic knowledge and its multimodal shapes of re-presentation.

Against this backdrop, we decided to initiate our field work over the summer term after the students completed their coursework and handed in all their assignments. We contacted students across the seminar groups so as to inform them about our study and ethical issues and invited them to voluntarily participate to semi-structured online interviews with the aim to explore their experiences, views and reflections of engaging with the module assessments and addressing the criteria of evaluation. Given the governmental restrictions of social distancing and lockdown measures, the research team chose to conduct the interviews online. The benefits of online videoconferencing include convenient time scheduling and location for participants, such as talking while being in their home environment where they feel more comfortable and safe [3, 4]. The fifteen students who took part came from across five groups and further shared with us samples of their assignments. While the data analysis is still ongoing, we 'd wish to share here some preliminary thoughts with a particular focus on students' experiences regarding the video diaries.

The design of our small in scale (albeit promising and even more rewarding!) project has been framed by the theoretical lens of multimodal social semiotics[5] and draws on a number of cognate semiotic concepts including the notions of design, mode, semiotic resource and multimodal ensembles. The term multi-modal refers to the multiplicity of means (modes) through which meaning is made and social semiotics concerns the significance of the socially-situated, communicative actions of sign-makers and their resultant signs.

Multimodality sees representation and communication as being realised through the selection and orchestration of diverse semiotic resources, the so-called modes. In pedagogic contexts both teachers and learners make and express their meanings by selecting and coordinating a multiplicity of modes (image, writing, colour, speech, gesture, gaze, movement etc.) to fulfil their social purposes. Each mode has its own materiality and potentiality for making meanings, which is configured by both its physical properties as well as by the communicative functions it has evolved to serve through its previous usage in diverse communities and the ways in which it has been culturally shaped to 'mean' by previous users. Given the complex relation of 'modal affordance', the rhetor's interest and intention and the variabilities and complexities of social environments, the category of design moves into the foreground of attention in the making of complex signs-as-texts. And so design becomes the *creative* practice where the crucial issue is the configuration of modes, media and frames in relation to rhetorical / political purposes, the designer's interests and the characteristics of the audience.

Learning environments include all the objects and phenomena which, directly or less directly, function legitimately in the environment of schooling and have recognised effects. The *interest* of the producer of learning environments – the teacher - is a pedagogic and didactic one: 'how can I best realise potentials for engagement with subject-content (a specific epistemology) together with a particular pedagogy (a social relation with the imagined audience)?' Similar questions apply to the kinds of textual entities that the learners are expected to produce and the social relations projected to them. The notion of genre, as the (multimodal) entexting of distinct social and epistemological positions of the participants involved in the text-as-interaction[6], is especially pertinent is enabling us to think about the meaning of contemporary literacy and the kinds of texts students are expected to produce for the purposes of assessment.

Research findings – some preliminary thoughts

Students' general experience of the module was positive and a number of them said that they found the module assignments interesting, especially as they were different from conventional coursework that they were familiar with and recognised that this helped them develop new skills. Particularly, in relation to the video diaries, which was the first assignment that they had to complete and hand in to for marking, the students were encouraged to engage with a range of creative processes which encompassed decision-making, problem solving, team work and role assignment along with the exploitation of online resources and media for the purposes of communicating and co-authoring their assignment. Importantly, we were impressed by their ongoing enthusiasm and commitment, despite the unprecedented challenges that the pandemic has brought to their lives and studies.

In the context of the video diaries, the roles students assigned in their groups comprised the following:

- Editor – oversees any writing
- Video Editor – oversees any editing of the video diary
- Communications Director – takes the lead on liaison with seminar leaders and teaching staff
- Main interviewer – there were 3 of these per group
- Technical director – someone to take responsibility for recording equipment
- Secretary – arranging meetings, taking any minutes for group meetings etc. Researcher(s) – take the lead on finding people to interview
- Transcriber – shared roles, so no one should be expected to transcribe an entire interview.

As they went along with the work, students added new roles in their groups in light of the issues that emerged (e.g. a second video editor, a coordinator of the group work). During the Pandemic period, all the conventional courses at universities transferred to online learning [7, 8]. Transitioning from face-to-face to online learning drove lectures and students to elaborate with additional or new teaching and evaluation methods [9, 10]. Due to the new conditions of online group work, some groups decided to film their online meetings which conducted via zoom or teams, to share transcripts by google documents and they arrange their group meetings and inform their team members for their progress via what's app.

Video diaries as multimodal configurations

The 'turn to the visual' in late modern society means that young people experience the world differently. Visual representations and the production of video diaries seem to be close to students' multimodal worlds and contemporary experiences / knowledges of literacy.

The broad range of resources that are available in the contemporary landscape are leading to the emergence of new multi-modal configurations and genres (in both digital and print media) that are significant for creativity and learning [6,11]

They are significant because of the ways that knowledge is re-distributed across image and other non-linguistic modes, as complex multimodal ensembles. Writing is one mode, image is increasingly dominant, and all modes play a key role in contributing to the meaning of the text[11]. It is useful to include some illustrative quotes from the student interviews which are both enlightening and revealing of the creative ways in which they have experienced and reflected upon the process of collaborating and co-creating the video diaries:

Group A
"We didn't script the video diary, we put music in the background and sounds of the frog to make it more fun we wanted to submit something different from the other videos we use audio effects in order to have a balance between what we said and of having fun."

Group B
"We have been creative we experience new things because we work as a group, and we encourage each other if I was doing alone I wouldn't be so creative-like using the frog sound we have the same interest, so make our work more enjoyable have audio effects make it more enjoyable and more accessible to people, we added subtitles to make it accessible to people due to the length of the video, we speed up our voices"

Group C
"We didn't have an idea of video making, we put a lot of effort to make it coherent, we paid attention to what to include we added sounds, we spend much time making it aesthetic. In the last part of the video, we recorded what we have learned"

Group D
"doing the video diary -it made us to think outside the box than the written academic essays
You can see the faces of people and how they feel if they are enthusiastic, you can listen to their tone of voice
The struggles were more technical, we didn't add sounds, we try not to make it too long"

Group E
"There are many benefits of working online... we recorded directly our meetings on Teams
we had a lot of clips to include, but we focus on presenting snapshots of our meetings, snapshots from our documents, interview plans than our faces during our meetings, not everyone wanted to show up on camera if it was a written assignment you can go back and change what you had written but while recording our meetings you can do it again/we show originally our steps/ the process we needed to have more than one editor, occasionally she shared with us the clips we said what to include more... "

Closing remarks

We have wished to begin sharing some thoughts and preliminary findings of our study exploring University students' experiences of non-traditional forms of assessment, focusing in particular on video diaries as a multimodal, generically hybrid kind of text. We anticipate that our ever-increasing interest in the ongoing dialogue and the reflective sharing of pertinent research and practice might help shed more light on the discourses surrounding the notion of creative teaching, learning and assessment[12]. Our work further seeks to highlight the importance of the recognition of the potentials and constraints afforded by the multimodal online environments and the need for informed selections of technologies, practices and assessments that facilitate students' meaningful, creative and enjoyable learning journeys.

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Playful Physiology for Physiotherapists in the time of Pandemic
Kate Grafton

Kate is National Teacher Fellow, Principal Lecturer and Centre for Learning and Teaching Associate at Leeds Beckett University. She is part of the team that teaches across the BSc and MSc (pre-registration) programmes with a specific interest in resilience, reflective practice and leading the Learning Through Games and Play Network. Kate was awarded her National Teaching Fellowship by the Higher Education Academy for the innovative nature of her teaching and the impact she has had on countless healthcare students. Kate also works for The Centre for Learning and Teaching.

Introduction

As a healthcare course in the UK during the lockdown periods over the last year due to the COVID 19 pandemic we were able to continue elements of practical skills face to face teaching for the BSc (Hons) Physiotherapy course. A blended learning approach was adopted with a combination of synchronous online tutorials, face to face practical sessions and asynchronous directed learning tasks. The choice of playful pedagogy stemmed largely from a conversation with the students about what they had been doing during lockdown – games featured heavily, and this inspired the cardiovascular & respiratory (CVR) physiology team to incorporate three well known games into the module delivery. Clinical Reasoning Cluedo, 'Shocked' The Escape Room and Taskmaster inspired challenges were introduced to both physical and virtual classroom environments.

We accommodated both staff and student periods of self-isolation, shielding and illness due to COVID throughout the delivery of this module, tasks and activities had to work for students who could not attend practical sessions in person AND those that could. Personal protective equipment PPE, social distancing, and all university COVID requirements had to be observed and adhered to. Students were taught in small bubbles (groups of 15-20) which meant the module team delivering some sessions several times a day and using video links between practical rooms to enable all students on the module to engage.

We were inspired and influenced by the work of Whitton & Mosley[1] and Nicholson & Cable[2] focusing on playful and puzzle-based learning approaches and by the student's enthusiasm for playing games and being flexible and open to a new way of learning for them and for us.

Implementation

Each of the three playful interventions were used in a different pedagogical way to appeal to different learners and to keep engagement and interest in the module content throughout the challenging winter lockdown period. Students suggested what games they enjoyed partaking in, and the module team adapted the module content to ensure learning outcomes were met and to improve wellbeing, attitude to learning and compliance with COVID restrictions.[3]

***Clinical Reasoning Cluedo*:** In all honesty this is my favorite childhood board game and immediately came to mind when thinking about a clinical reasoning/revision task to bring all the module content and knowledge together, the students also serendipitously requested it too. Health care professionals talk about clinical reasoning, but it is another term for problem solving, like a jigsaw puzzle – putting all the pieces of information/ assessment together to diagnose or decide on a treatment direction. Cludeo combines the same skills: deduction, elimination, and fact assimilation. The biggest hurdle was uploading audio clips from an iphone to blackboard but the university digital learning team provided excellent support here. Having recently delivered this 'creative practice' to the university wide DEAP (Developing Excellent Academic Practice) Teaching and Learning conference and a wider Physiotherapy professional education meeting several health course academics have shown an interest in running similar versions for their on practice areas as online learning continues.
APPENDIX 1 Explains how the Clinical Reasoning Cluedo game works.

***Shock!- An Escape Room*:** The module team developed a physical escape room a couple of years ago – utilizing our clinical skills intensive care simulation room. The theme of the room is shock/sepsis and includes anatomy, CVR and neurology-based clues

with the aim of being a revision activity at the end of the module teaching. It has evaluated well in the past and is in fact the first experience the level 4 students have of being in the simulation suite and using the SimMan. The challenge this year was moving the escape room into an online format as well as the physical environment. Google forms was chosen as the host based on advice from colleagues in the gaming team, it was very easy to transfer the content and puzzles to an (almost) exact online version of our physical room. Students could choose to undertake the in-person activity or the online version or complete both.

Escape room link to have a go at our Shock! An Escape Room
https://docs.google.com/forms/d/e/1FAIpQLSdgfQH2VnCHZfbX8I6VlO5EFYu7-H5jM4rmzrbHQFvtUnfmvg/viewform

Taskmaster: Our students love the Taskmaster TV programme (Channel 4 UK television channel) and asked for some themed activities several times. It was decided to incorporate some of the tasks included in the show. Our aim here was to enhance groupwork in a cohort of first year students who had barely met each other and to have some playful interludes during very long 3 hour online tutorials on a Wednesday morning.

Taskmaster Task

Alex…..next task please….
- Using only the materials provided, in your groups make a working model of a physiological process, either respiratory or cardiac.
- You have 10 minutes planning and 20 minutes to build
- Your time starts when the taskmaster takes a big deep breath

Evaluation and Reflection

Student feedback was collected informally, verbally after the events and through the university standard module evaluation process. The CVR physiology module team were delighted by the feedback –

'This is the best escape room I have ever done!'
'Doing these activities made me realise what I didn't know, it was nice to do it in groups together – not so threatening'
'Thank you for making our learning interesting and fun – physiology is a hard subject and we appreciate you trying to make it more accessible.'
'The CVR team are ace at teaching in a way that is inclusive and interesting – at a time when I had had enough of online – this module made it good again'
'I feel more confident about my revision now for the respiratory content'

The plan for delivery of the Physiology for Physiotherapists module in the next academic year is to continue with the blended learning approach. Feedback from students on this approach has been very positive, the module team enjoyed developing the games and puzzles but acknowledge that timetables are likely to be less flexible next semester and may have limits on room availability/resources and what COVID safe delivery may entail in the future. As academics we enjoyed the playful learning approach very much – the combination of three different styles of delivery kept our enthusiasm and the student's engagement going through a very challenging and constantly changing term. Even when full face to face delivery is resumed – the online activities can still be utilized as revision or supporting resources going forwards. Physiology content thankfully doesn't change greatly year to year but how you empower students learning of this challenging and complex subject to enable them to be safe, successful, and effective physiotherapists is in our gift.

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Task Aims:
To engage students in possibly unexplored areas of their blackboard module content.
Could be undertaken by the students at a time of their choosing.
Start to develop problem solving skills at L4 (clinical reasoning skills)
Liven up revision sessions for students and tutors

Resources:
A clue (problem) for up to seven characters, I included:
Screen shot of a text message (Mrs White: Observations)
Voice recording from phone (Dr Peacock: Auscultation)
Online internet search (Col.Mustard: Home Oxygen delivery info)
Diary entry (Mr Black: subjective history)
Scribbled note found in a pocket (Scarlett: ABG's)
Picture clue (Prof Plum: Inhalers)
Printout picture (Rev Green: Spirometry)
A cryptic email message sent to students: to spark interest
The clues could be placed anywhere in the module where you want/need the students to look. You could also place the solution hidden somewhere for students to find at a time of your choosing. Be as creative as you feel! Mr Black wasn't murdered here – the students had to work out what appropriate physiotherapy interventions could be used to help Mr Black. Be clear about what you want students to do with the information and how you want that fed back to you (email, hidden answer reveal, discussion group, or during a future tutorial)

Scene setting Blurb
You are on a training course at a hotel in remote North Yorkshire, a fellow guest at the hotel Mr Peter Black has suddenly become very unwell. You are the only person in the hotel with any medical knowledge and you must help Mr Black until further assistance arrives.
There are 7 clues in and around the CVR pages - find the clues, put the evidence together and work out how you can help Mr Black......
You need to decide on his diagnosis (what pathology?)
Figure out his current physiotherapy problems
Treat Mr Black until the further help arrives
Feel free to message me with your answers - I will post the solution this evening
Get sleuthing

Kate Grafton May 2021

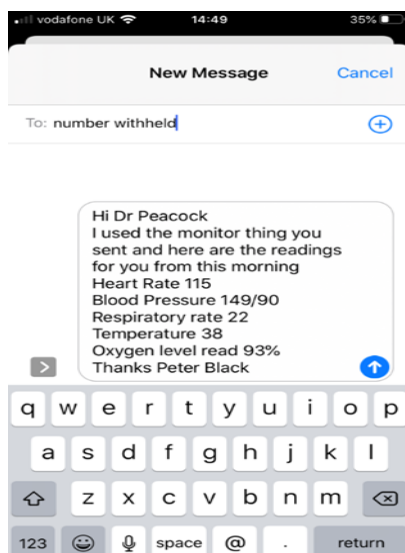# Examples of Clues

Figure 1 Screen shot of a text message

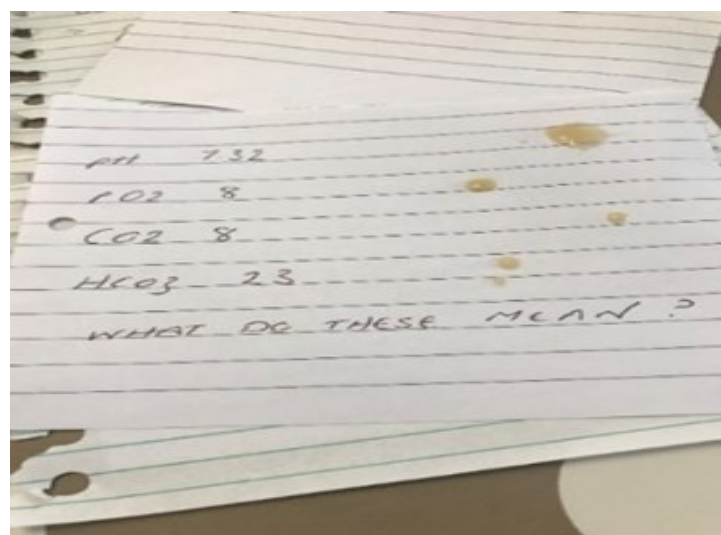**Figure 2** Scribbled note found in pocket
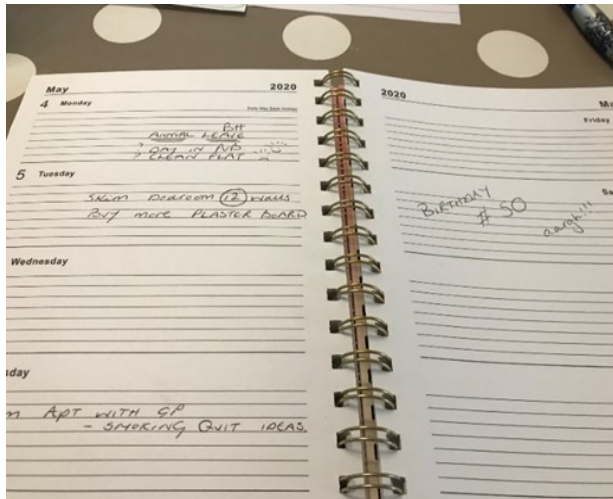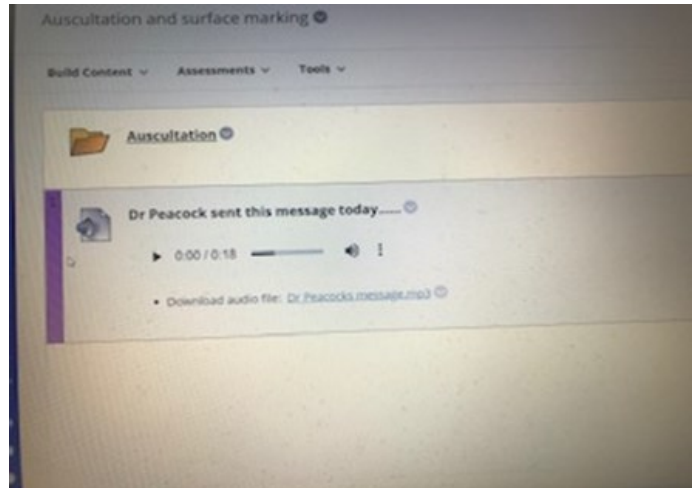
Figure 3 Diary Entry

Figure 4 Screen shot, voice recording of message from Consultant

Clinical Reasoning Cluedo – the solution.

Clues

Scarlett - ABG's pH 7.32 (acidotic) PO2 8 (low) PC02 8 (high) HC03 23 (normal) = Type 11 Respiratory failure hypoxic and hypercapnic

Mrs White - Vital signs HR 115 (tachycardic) BP 140/90 (early hypotension) RR 22 (tachypnoeic) Temp 38degrees (pyrexial) SaO2 93% (low) = possible infection, abnormal vital signs

Dr Peacock – Auscultation Upper zone wheeze, quiet bases, no tactile fremitus = bronchospasm, possible consolidation (infection in the bases) no signs of sputum

Col Mustard – Oxygen web link = Interest in longer term management of his condition

Rev Green – Spirometry – FEV1/FVC & PEFR all below expected norms – using the diagram likely to be = an OBSTRUCTIVE type picture

Professor Plum – Drugs – Symbicort inhaler combination of steroid (inflammation) and bronchodilator (muscle relaxant) used in asthma and COPD to reduce = bronchospasm

Mr Black – Diary entry (social history) Possibly a drinker/unhealthy life style, has an appointment for smoking cessation advice. Plasterer/builder (?OLD) Aged 50

*Each of these clues in isolation isn't much help and yes there is other information you would want to know (in the real world……..e.g chest expansion, PMH, CXR findings, subjective and objective findings) but combined together you can problem solve or as we call it CLINICALLY REASON!

Diagnosis – COPD (emphysema picture) or Occupational Lung disease
Physio problems – Increased work of breathing due to broncospasm, reduced lung volumes, Type 11 resp failure (hypoxic and hypercapnic)
Treatments – positioning for breathlessness (high sit, FLS, high side lying) check inhaler technique, relaxed breathing for the wheeze and anxiety and yes he is in Type 2 resp failure so eventually NIV with oxygen therapy.

I hope that all makes sense and that you liked it as a way of learning and problem solving – I enjoyed putting it together and think I have a new career in voice overs 😊   Kate

Using Padlet to share dissertation stories and writing tips: Can Padlet help foster a scholarly community?
## Aspasia Eleni Paltoglou, Rachel Simms-Moore, Michaela Pal & Rossella Sorte

Aspa *is a Senior Lecturer in Psychology at Manchester Metropolitan University, a Fellow of the Higher Education Academy, a graduate member of the British Psychological Society and a member of the #creativeHE community. She studied for an undergraduate Social Anthropology and Social Policy and a diploma in classical piano performance in Greece, as well as for an MA in Music Psychology and a PhD in auditory cognitive neuroscience in the UK. She is currently studying for an MA in Higher Education at ManMet. Before joining ManMet, she taught in several UK universities, including the Open University. Her interests include exploring the role of creativity in education.*

Rachel: *Has a bachelors in business management. She worked for several years in project management for the NHS and abroad. After recovering from two brain tumors she had a new perspective on life and found herself searching for a more fulfilling career. She completed diplomas in counseling, CBT and mindfulness before studying an MSc in psychology where she discovered a passion for neuropsychology. She is planning to continue this journey of discovery with a neuropsychology/health psychology PhD. Her ultimate aim is to make it standard practice to offer some form of psychological support to all those recovering from brain tumors. This will hopefully lessen the trauma of survivorship and improve patient well-being.*
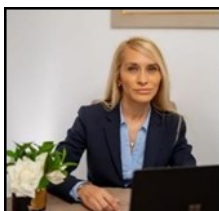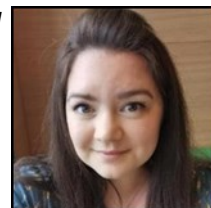
Mia *(left) completed her MSc in Psychology this year at Manchester Metropolitan University and prepares to apply f or her DClinPsychology. She is a neurolinguistic psychotherapist and consultant on trauma and trauma-related difficulties, founder and director of In Cognition Uk. She serves as Co-chair of the BPS North West Branch*

Rossella *(right) has worked as a diversity tutor at MMU since 2019. She is an active member of the E&D and I committee and co-chairs the disability group in the department. She is committed to raising awareness and developing neurodiverse-friendly educational environments for the students. Previously, she worked as a psychologist in school settings with neurodivergent children.*
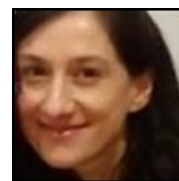
Introduction

Studying on a course can be a very rewarding and enriching experience, one that allows the student to acquire important skills and expand their horizons. On the other hand, it can also be a stressful and lonely experience, especially when the course is delivered online[1]. Some scholars suggest that social interaction is crucial for learning to take place, and the lack of face-to-face contact can make social interaction more difficult [1, 2, 3].

The key question for educators during the pandemic is, *"How can we encourage students to connect and create a supportive student community when there is no face-to-face interaction?"* Part of the solution is using software that can help create a learning community[2] like Padlet (www.padlet.com) a free online platform where users can post messages and comments anonymously. This capability can facilitate student engagement in activities, both for face-to-face and online teaching, synchronously or asynchronously. Of course, software by itself cannot build a community; it is important that the organizer designs an activity in a way that the students feel compelled to participate.

The activity described here took place in the Dissertation unit for the MSc Psychology Conversion course at ManMet, an MSc course that is delivered online. This is a course in which students that did not study psychology for their undergraduate degree can acquire knowledge in key areas in psychology and gain accreditation from the British Psychological Society.

In the Dissertation unit, the students are asked to take full responsibility of their project and work independently. Keeping motivated and working consistently on the project and dissertation throughout the 9 months can be a challenge, especially for students that are in full-time work and have family responsibilities; even more so during a pandemic.

The dissertation unit is conceivably one of the most creative units of the course, as students are asked to come up with a novel study, collect and analyse their data, and finally write up a report. It is also probably fair to claim that the Dissertation Unit allows students and lecturers to engage in a constructivist approach to learning, more so than in other units. The constructivist approach of learning suggests that individuals construct learning themselves by combining what they already know with new

information[3]. According to this approach, it is important for students to be active learners and reflect on their learning, and for learning to relate to the real world in an authentic way.

This approach also puts emphasis on the importance of social interaction while learning and suggests that being part of a community where the main goal is to learn (i.e. a 'community of practice') is very important for learning. Social interaction is also thought to help shape the values and identity of the learners[2]. Adams and Wilson[2] suggest that it is beneficial to include activities that promote and capture students' thinking as it is being formed (rather than just the final product), by encouraging online discussions between students, and thus foster a learning community; online platforms can be very effective in facilitating this. Similarly, Abegglen et al[4] note that writing should be seen as a process through which the writers learn, a process that should be fun and interactive. They suggest that students should be given creative spaces where they can 'write to learn', collaborate, explore, discover the pleasure of writing and learning by participating in writing projects other than formal academic writing. This Padlet activity attempted to create such an informal creative space.

Padlet activity and responses

ACTIVITY 1 Project Stories
Typically, the students come up with very interesting projects for their dissertations, usually inspired by their employment or a significant life event. In order to capture these stories, and inspired by the 4th co-author and colleague who had already created a Padlet activity for the same course, the first author (and unit leader of the Dissertation unit) created a Padlet which invited the students to do two things: firstly, to write about the story behind the reason they studied psychology and the topic of their dissertation project; and secondly, to share writing/study tips and potentially write and share a study diary to reflect on their study practices. The Padlet was placed on the Moodle website for the dissertation unit, and students were invited to participate in this optional activity through a forum message. The hope was to encourage a dialogue regarding the projects and study practices and foster a sense of community.

Padlet instructions for students:

> **"Optional activity: Project Stories and Study Diary**
>
> Feel free to share your stories here regarding:
> Why did you become interested in psychology?
> Why did you pick a particular topic for your dissertation?"
>
> You can share stories about either or both topics. Also, feel free to comment on other students' stories. I thought it would be a good idea to allow you to share these stories with each other and find common ground. You can also use this space to reflect on your work, e.g. writing your introduction, collecting data. Do you first finish one assignment and start the next? Or do you work in parallel? What are you finding difficult/rewarding in writing your dissertation or essay?

I posted a brief note about a project I was hoping to work on at the time.

> My study explores motivations and experiences of cycle touring. I love cycle touring, and there are not many studies on this topic. I was also keen to do my own qualitative study, and I wanted to pick a subject that really interested me. For more information see this article (supported and edited by editor extraordinaire Dr Susanne Langer):http://e-space.mmu.ac.uk/625633/

Two students (2nd and 3rd authors) and one member of staff (4th co-author) responded. A more detailed account of the padlet contribution of the 3rd author can be found in Pal[5]. Here are the contributions of the other two participants:

Rossella Sorte's story:
When I arrived in Manchester in 2011, to complete an internship at ManMet, it was all very new to me because I had never left Italy before. I lived in a shared house with other students from different countries. It was fascinating living with somebody who had different living cultural habits and stories to share. I remember that far from home, the smell of baked bread of my French Muslim flatmate in the middle of the night during Ramadan provided the comfort and security that I had in my home country, and which I was missing in the UK. I realised that food was important to me in terms of identity and belonging, and I started asking other students how they felt about it. I soon appreciated that the experience of displacement was more common than expected when people travelled from other countries with such different cultures.

Once back in Italy I decided to make something valuable from this experience and started to research about the sociability and emotional value that food has for place-attachment. I first looked at the local communities in Milan; the Chinese are one of the biggest groups who are now in the second generation and with a longstanding history of food-settling and business in Italy. A few years later I returned to the UK to start a PhD on food, place-making and belonging among South-East Asian women in the UK. I studied how women creolised recipes and food practices to rebuild a sense of home in the UK. My research allowed me to explore the meanings of food beyond its medicalised terms. Food represents the embodied and sensorial experiences of people's journeys and memories of a lifetime, and it has an invaluable meaning into our nomadic lives and the way we make sense of our roots and the domestication of our living spaces.

Rachael Simms-Moore's dissertation story
My study is on the life perspectives of adults after brain tumour treatment. I myself have had brain tumours removed over the last 6 years and have made friends who also have had similar diagnoses as adults. I have found that much of the research focuses on children with tumours or carers perspectives and not on adults with tumours. This may be due to the very low survival rate, but it made it difficult as one of the 11% who survive to find any qualitative research of others' experiences. With 11,200 adults diagnosed in the UK alone each year (32 every day) I thought this might be a gap I could help fill for others. Some of the data gathering has been emotionally draining but it feels worthwhile and keeping the final project in mind is keeping me focused and moving forward.

ACTIVITY 2 Writing diary
Another aim of the Padlet was to create a space for students to share writing and general study experiences and tips. To that end, the first author created a 'writing diary': a diary noting thoughts and everyday actions in relation to writing. The initial motivation for this activity was discussions with the students on one of their studying strategies. As full-time students, they were required to study for more than one units at a time, which meant that they had to work on two different writing projects at the same time; for example an essay for one unit, and their report for the dissertation unit. The problem with that is that the project and dissertation can take the back seat, as the students often choose to focus on a more pressing deadline of an essay, which might result in not dedicating enough time to the dissertation. I reflected on my writing practices, and I noticed that I tend to work on more than one writing projects at the same time, often alternating between them.

Short-term task switching has been robustly shown to result in reduced task performance[6]. However, changing tasks over a longer time frame could at times be beneficial; for example, leaving one project aside for a while could result in tackling it more successfully, as new ideas could be generated on how to proceed with the most challenging parts of the project[7]. The idea of 'incubation' and its positive effects on creativity are relevant here; incubation is thought to be a stage of creative problem solving where an individual takes a break from consciously and actively working on the problem; when returning to it, they typically have new insights and ideas on how to solve it[7]. The mechanisms of this phenomenon have been widely researched and debated. Some scholars suggest that it is the absence of conscious thought for the project that enhances creativity, partly via cues in the environment that can help the retrieval of important information and the reduction of unhelpful mental fixations[7]. Conceivably, working intermittently on two different but related writing projects, which involves stopping conscious work one of the projects while working on a relevant project, could provide facilitating cues to retrieve (or even discover new) relevant information that could be helpful for the writing project.

 I posted a note pondering on the idea of working on more than one writing projects at one time saying:
"I quite like working on different papers at the same time, although it depends on the paper, and on the stage that it is really. If, say, I just started working on 2 papers, and they are quite similar, then it usually helps to work on them in parallel. If you get stuck with one paper, then you can work on the other one, and you feel you are making some progress. Also, having a bit of distance from a paper usually helps. But if I have a deadline for corrections on a paper, then I suppose I would focus mainly on that and not on other papers. It is a matter of trying different ways to see what works for you."

In some ways, the diary was an attempt to examine my own writing practices, and to see if indeed I was switching between different writing tasks.

> **Extract from my diary:** *"07/05/21*
>
> *I am working on the 5th draft (or is it the 15th?) for the Times Higher Education article (800 to 850 words) on hierarchy and creativity in academia. The editor has been very helpful, but this is my last shot. It needs to have more sources and be less personal. It is definitely much better than it used to be, but still some way to go. I am re-reading the references to make sure I interpret them correctly, and to see if there are more relevant ideas I hadn't initially noticed. Reading one of the papers, I am adjusting some of the terms, and copy parts of the paper in comment bubbles to re-think later, as there are some very relevant points.*
>
> *I had also contacted The Psychologist's editor Jon Sutton and he is interested in a media review on a radio programme on the Peter Principle (300 words). I started jotting down some ideas on paper and looking at a couple of relevant papers.*
>
> *I have written 140 words for the Peter Principle review, very first draft.*
> *Back to the THE article: I read a blog on holacracy.*
> *Peter-principle review: 320 words, included self-determination theory."*

I also wanted to encourage the students to keep their own writing diary, in the same Padlet or elsewhere, so that they can monitor and appreciate their progress, and so that studying does not feel like a lonely, never-ending struggle with no results. There is some evidence that an informal learning journal, where students reflect on their writing with both a cognitive (such as organisation and elaboration) and meta-cognitive strategies (such as monitoring and regulation), can have positive effects on comprehension, retention of information, and motivation for learning (8). Reflecting on my experience, keeping a writing journal (and not just on the Padlet) has helped me keep focused and motivated; self-monitoring of my progress tends to give me reassurance that I have progressed on the paper I am working on, and gives me a sense of continuity and progress, and stops me from abandoning the project. Writing can be a lonely experience, and a high level of intrinsic motivation is needed; a writing diary could help foster intrinsic motivation for writing.

Although very few of the 80 students wrote in the Padlet, it still generated discussions between the contributors. Here are the reflections of the participants:

MSc student Rachael Simms-Moore:
I initially wrote on the Padlet to share my dissertation idea and the motivations behind why I chose the topic. I was interested in reading what other students were working on and why. I was pleased to see that everyone appeared to have picked a topic personal to them and that I was not the only one doing so. I also was impressed by the variety of subjects that were being covered.

I felt it was a shame that more students did not opt in to share, although this may be to do with concerns around plagiarism and not wanting to risk sharing their ideas. Particularly as a Master's is a competitive degree and especially when considering the final piece is worth the most marks.

Having shared the dissertation piece, I felt I had fulfilled the aim and did not therefore need to also keep a writing diary there. However, I did check in on the Padlet from time to time to see if anyone else had contributed to it as I was interested in reading other student stories and motivations. If the Padlet topic focused on the writing diary as a singular purpose Padlet, this may have resulted in more contributions as then students would not need to disclose their dissertation topic ideas. Also, in focusing on techniques and strategies for writing this could have possibly proved beneficial for sharing helpful tips with other students. To share one of my study strategies, I used a desk weekly planner where I blocked writing and study time for each module and included rest periods. I found this was more useful than an online planner as I physically looked at my desk planner each day. Not risking the out of sight out of mind trap! Also using static wipe board paper on my walls to outline assignments and make notes on the dissertation from the first month of the degree meant by the end I had a solid wall of notes on my dissertation ideas. Finally, I used music to help delineate study time vs relaxation time. I used the same soft Jazz playlist for when I was studying creating conditioned associations. This is a similar technique to using a particular piece of music to help sleep etc.

What may be helpful for the future Padlet is a weekly automatic email reminder with the link to remind students to update the writing diary on a specific day. This could be an opt in system and would allow students to keep the Padlet in mind. The course

is a busy one and doing extra work may be made more accessible via reminders and a note that even a paragraph a week as a writing diary is enough. This may stop students feeling daunted or overwhelmed and encourage greater participation.

MSc student and co-author Michaela Pal:

The reasons I answered and posted to the Padlet were as follows: firstly, I love writing and it's my second nature; secondly, I like to share my experience of learning and creativity with others; finally, I like to inspire people to be creative. It is interesting to ponder on why such a small percentage of students responded to the activity. Perhaps writing does not come naturally for all individuals; not everybody finds it easy to express their thoughts in writing. And then, there is that thought at the back of your mind: 'What if what I write is not good? What will they think?' And the self critic is out there in all his splendour ruining it all. It is also possible they might have forgotten about it; promoting the activity regularly might have resulted in greater participation. Or they might be too busy and not consider such activity being as significant as writing their assignment.

But this is something one can work on - there is no such thing as too busy as not having enough time! After writing a mighty thesis on exactly this theme, time, I have acquired a clearer vision on how people can strategize and become consciously and actively involved in creating these time management strategies when it is needed. I think that sharing your experiences with others has a double benefit; it helps the ones that read /listen and creates a sense of community. But it also helps the writer too, as sharing with others can help one grow as a person, become more responsible, and more authoritative in their expertise. It is important to create a non-judgemental and student-centred culture that encourages writing and sharing in the community. It is important to assure participants that they will not be judged.

Human beings tend to respond well to things that present a reward or a benefit. It is the culture we live in. If it was emphasized that reflexive writing could potentially enhance creativity, critical thinking, free some mental space for when we later write our assignments or help us be more reflective for our new jobs, it is possible that students might have been more motivated to participate in the activity. Who wouldn't like to be more creative, more analytical and more relaxed when they write their essays, or more successful?

Colleague and co-author Rossella Sorte:

I work on the Conversion course as a diversity tutor and this year I supervised students for the Dissertation Unit. Aspasia and I met for the first time before the start of the Unit to discuss about generative research work/creative research practices and engagement among the students by using Padlet, whilst keeping the focus on self-directed learning. After our meeting, Aspasia shared her reflexive Padlet with me to which I responded by contributing the story of my PhD journey.

Although only a few students populated Padlet, this idea sparked interest in discussing how we can use digital spaces creatively in teaching, as well as how to use digital tools to enable spaces for learning creatively. The way this space was constructed, it enabled a re-conceptualization of teaching and learning as a relational practice[10], which connects us through the stories and the practices of our everyday life[11], humanizes teachers and learners, and finds communal grounds to bond and co-produce knowledge[12].

I appreciated how Padlet could be used to reflect on our embodied learning [13, 14]; for example, make learners more aware of their learning practices. The first author shared a flow of thoughts on her academic writing which focused on the way she planned and managed her time at home whilst focusing on writing papers. I found this exciting, and a great opportunity for learning from my colleague. Padlet's stories are dynamic as they create a continuous shift of our knowledge and make us responsible for our actions when we learn, as we set to put in action our thoughts as we write, read, and reflect on them. Some students and academic staff, and I include myself, show some reluctance to writing, and this is because we are taught from an early age that writing is constrained by rigid rules[15]. Nowadays, with the development of technology we are engaging with the idea of unruled space[16] as well as expanding the space of subjectivity[17], and the horizons of communication which promote research and sense-making based on the practices of everyday life. Writing stories allows us to opt out from a format and a preconceived space where things follow some hegemonic logic and capitalized ideas [15]. The sketching proposed by this Padlet, the nomadic writer[9], the one that develops with their ''rhizomatic'' thoughts[18] without necessarily following an academic logic but the ecologic rhythms of humans, can relieve these anxieties and make the learner feel confident that they have interesting revelations to disclose. Keeping a shared reflexive journal opens the possibility of continuously evolving through

these narratives and through the language that we use to talk about ourselves[19]. The idea of reflecting and learning from these stories can be helpful for students to enable awareness and create a sense of belonging to a community[20].

First author's final reflections

I have learned so much from my co-authors' insightful suggestions and reflections, and this knowledge will help me improve the activity next year. Even though there was limited participation in the activity from the rest of the student cohort, it brought together the authors of this paper, and created a micro-community of nomadic writers[9], to use a term Rossella introduced in her eloquent analysis. This micro-community was further strengthened while writing the current article.

Reflecting on the suggestions, the worry with having too many Padlet's was that there would be too many links in an already busy Moodle site. But it is a good point that Rachael made about the Padlet having a single focus, as having two different tasks within the same Padlet was potentially distracting. Furthermore, the Padlet was placed on Moodle, but it may not have been easy to find among so many other documents and links. The students were alerted once about it in the Moodle forum, but a reminder could have helped.

The issue of plagiarism that Rachel raised is a very important point. It goes without saying that it is extremely important that the students submit original work, but I wonder if the worry of plagiarism potentially discourages the creation of community between the students to some extent. Fazel & Kowkabi[21] suggest that we need to make sure we 'design out' plagiarism, and they suggest several tips for doing so: include several checking steps, such as reading drafts by staff and other students, make sure that the assessment has the right level of difficulty, give students the option to work on a subject they are really interested in. As Newman et al [22, p.3] suggest, it is important for assessment to be authentic, i.e. 'significant, worthwhile and meaningful' for the students. Although most of these suggestions are implemented in the Dissertation Unit, plagiarism can still be a worry.

Michaela made a very important point about individual differences between students regarding writing. It is indeed important to remember that students are a very diverse population. I wish I could tailor my teaching so that each and every student achieves their maximum potential, but that is not always possible. My way of addressing the student diversity is to include a variety of activities so that students can choose the activities that are most suitable for them, while ignoring the ones they find unhelpful or not relevant. Furthermore, I think it is understandable if most students choose to focus on their compulsory coursework, especially during a very busy and eventful semester. Finally, I have been made aware that sometimes participation in activities and forums can have a negative impact on students' motivation and confidence, as such spaces can result in students comparing themselves to other students, which can have a negative impact on academic confidence [23]. Therefore, I feel it is important to make participation in such activities entirely optional. But I agree that emphasizing the benefits of writing reflexively and the informal and non-judgemental nature of the activity, as Michaela pointed out, might have also helped increase participation.

Although I was the one organizing the activity, I did not comment on the participants' writing, I just used the 'like' function. I think part of the reason I was not commenting on other participants' posts in the Padlet was that I wanted to make sure I did not discourage them or put them on the spot in some way; the Padlet felt like a very special space that I did not want to disturb, but perhaps I could have encouraged discussions by posting messages commenting on the other participants posts. Perhaps the two parts of the Padlet would not have been seen as disconnected, if I had been working on my cycling study, which would have been a task much more similar to the projects the students were working on. Although my intention *was* initially to work on the study, it turned out that during the time I was keeping the diary, I had to work on other writing projects, such as brief reviews. This perhaps made the writing diary less relevant to the students working on dissertations and academic essays. Next year I will work and keep a Padlet diary on my study; it will certainly give me extra motivation to keep working on my study while the students work on their own projects, and it will hopefully make the diary more relevant to the students. As a closing remark, I must note that being a unit leader of this unit as well as project supervisor is one of the most rewarding parts of my job, and I feel very privileged to be able to support students and staff with managing such interesting projects.

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Relentless: A fashion project for the future
Johanna Payton

Johanna is a journalism lecturer at City, University of London. She is currently in the second year of her PhD, researching creativity in journalism and how we facilitate a creative culture for journalism students at university. Johanna still works as a freelance journalist, alongside her teaching, and runs media training courses. She is an active member of the Creative Academic & #creativeHE communities.

Introduction

Many of my BA Journalism students have a keen interest in fashion, and they are aware that the fashion industry is one of the world's worst offenders when it comes to pollution. At the start of the academic year 2020-21, when I met the new third-years, we talked about this issue, and agreed that we wanted to do something, to make a difference. We talked about a sustainable fashion show, a panel debate, inviting students across the university to contribute to a sustainable fashion conference...but we were all too aware of rising COVID-19 cases, and the threat of another lockdown. How could we raise awareness around the fashion industry's pollution problem within our community, if we couldn't be in the same room?

Image 1 Eliott Swan on location at Streatham Common, styled and shot by Johanna Payton

Creative intervention

Wait! We are journalists. And we needed to think like journalists. The physical constraints caused by coronavirus couldn't hold us back creatively. As Jesse Owen Hearns-Branaman[1] writes, the radio journalist Johnny Bliss, confined to his bedroom by the pandemic, "managed to do some of the best work of his career" [p.271]. We felt instinctively that we could use our journalistic skills to create something unique and positive to motivate change within our community. A project the students could be proud of (and include on their CVs - employability is always a priority for third-years).

Inspired by Erdem's fashion show on the outskirts of Epping Forest[22], we came up with the idea of a sustainable fashion showcase in our own surroundings. The showcase would be shared in the form of a video, supported by a documentary with sustainable designers and influencers, to highlight the climate change challenges the industry faces.

For the showcase, a core group of students volunteered to source sustainable clothes from designers, friends and their own wardrobes, styling their closest contacts, and filming them on location in nearby parks, woodland and commons. Between us, we had the video editing skills (using Adobe Premiere Pro) to weave the shoots together, creating a complete and coherent fashion narrative. I am a firm believer in learning and working alongside my students, so I convinced my son to let me style him, and he modelled for the first shoot on a chilly but sunny day on Streatham Common, minutes from our home.

The students set up social media accounts and a website to promote our work, and devised mood boards—inspired by gender fluidity, which was an important theme for them - for the clothes, make-up and locations. Our film director, Diana Buntajova, provided direction on the day of each shoot via WhatsApp, feeding back live on footage and still photography captured on the 'set'.

Image 2: Paris on location in Liverpool, photographed and styled by Jessica Battison

We faced many challenges--we had no budget, so we relied on the good faith of designers to send samples. One of the students walked to a studio in east London to collect a selection of clothes in person. Some students made their own clothes for the shoot - there is a wonderful crochet tank top on display courtesy of third-year student, Laura Molloy. Due to social distancing, bubbles and limitations on travel, models were sisters, boyfriends, sons, best friends and flatmates. And every shoot was managed and directed remotely, with our core team spread between London, Liverpool, Cyprus and Italy.

But the technology worked beautifully, and thanks to the wonder of Zoom interviews (and the easing of restrictions in the spring of 2021) making the documentary was a breeze. We had contributions from a range of impressive fashion figures, with every interview set up, conducted and edited by the students.

Image 3: Third-year students Amber Zafar and Akshay Patel on location in London

Lessons Learnt

Relentless launched on July 23 2021. The 15-minute film premiered online and we held a live Q&A afterwards on Zoom, with an in-person event in the evening. A group of 30 students (to comply with COVID-19 regulations!) joined me in central London for an informal photo shoot and a party in the park. Our social media manager was still in Cyprus due to travel restrictions, but she joined us via video call.

The students successfully applied for City's School of Arts and Social Sciences (SASS) Sustainable Development Goals Competition and were awarded first prize in the undergraduate category for their work on Relentless. The image to the left shows: Team Relentless celebrating: (l-r) Johanna Payton, creative director, Akshay Patel, PR director, Diana Buntajova, film director, Yu-wei Lim, fashion director

None of us wanted Relentless to end there. Everyone involved (including my son, who will now only buy from eBay) said their attitudes towards fashion consumption had changed, and we were able to reach out across our university community and beyond to share a message of hope and change. In this academic year, I'm launching a new Relentless project in collaboration with the Fashion and Textile Children's Trust, with this year's third-year students making an editorial video about the charity, and an event and panel debate planned for spring 2022 to discuss the future of the UK high street.

Relentless was a hugely inspiring project that gave the students real-world experience as fashion journalists. I would urge colleagues to invest in extra-curricular projects where students can explore their creativity and potential outside the constraints of assessment. It helped them to bond deeply with me, each other, and their university community more widely, in spite of having no physical interaction. We used the barriers of the pandemic to our advantage, and I hope you'll agree that the Relentless fashion film and documentary has made a worthy contribution to the debate around fashion and sustainability.

Relentless on YouTube: https://www.youtube.com/watch?v=PUhKvK5LQJ4

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Drawing for Learning During a Pandemic
Curie Scott

Curie is a medically qualified doctor with a PhD in Drawing for Cognition. She gained awards and recognition for creative approaches and reflexivity for learning. After 18 years lecturing she continues her academic work independently. Her book on 'Drawing' for health and wellbeing, was released in Oct 2021. She is an Education consultant and Embodiment coach. Curie works at the intersection of Education and Health, incorporating drawing for resilience, wellbeing, and capacity building

Curie shared ways drawing augments learning within HE during the monthly #creativeHE network meeting (18th October 2021). Participants were invited to create a drawing that captured the sense of where they were now in respects of teaching, before sharing their drawings in breakout rooms.

Drawing opens up a rich interactive space with students both face-to-face or online (e.g. sketching through Miro. Drawing has a long history with learning though drawing for learning remains marginalised within Higher Education (HE). This blog expands on my drawing focused PhD1 and my educational practice.

Drawing enables all the levels of learning denoted by Blooms taxonomy. That is, drawing has been shown to help students remember, understand, apply, analyse, evaluate, and create. These forms of thinking are necessary for our students' lives as the future workforce post- COVID-19.
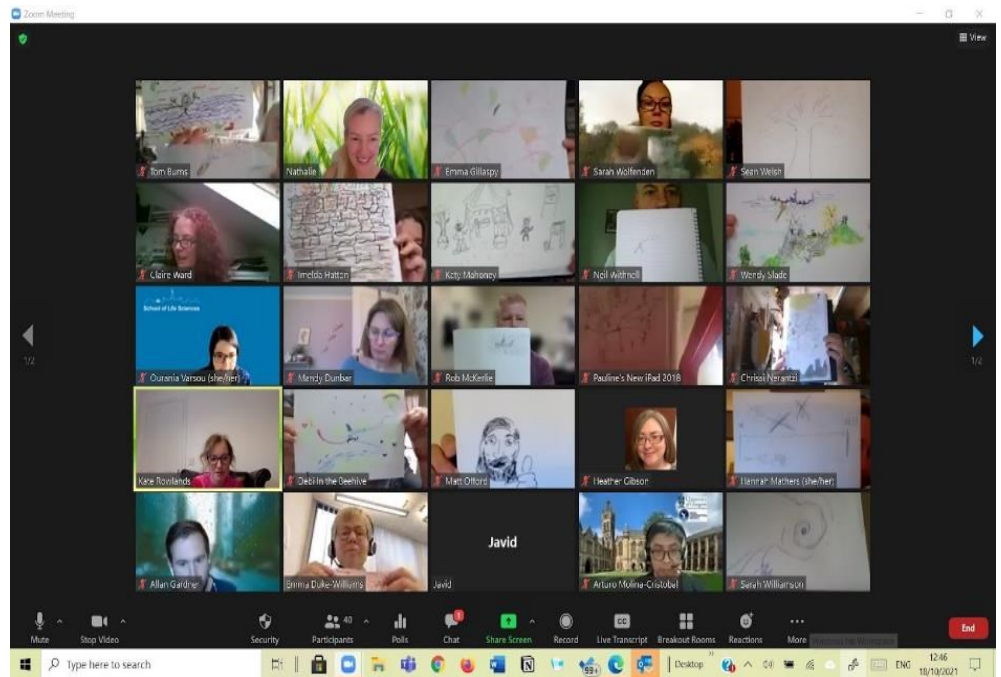
Here are the top ten life-skills cited by The World Economic Forum (2020) necessary:
• Analytical thinking and innovation
• Active learning and learning strategies
• Complex problem-solving
• Critical thinking and analysis
• Creativity, originality and initiative
• Self-management skills (= resilience, stress tolerance and flexibility)
• Skills of reasoning, problem-solving and ideation

My PhD research titled *'Elucidating perceptions of ageing through participatory drawing: a phenomenographic approach'* utilised freeform, intuitive drawing or 'mark-making'. I named this drawing process 'generative drawing', which I defined as:

"The process of mark-making for enactive, emergent non-propositional thinking to be presenced on the page in order to be seen. It accepts indeterminate drawn marks as holders of potential meaning, appreciates drawing as both process and product, and connects drawing with thinking and reflecting" [1, p.xii]

I was especially interested in whether drawing helped adults to explore their worlds. Children explore their world through mark-making. In fact, drawing development is a crucial part of a child's cognitive development. My PhD research confirmed that drawing was useful for adults too and can be "reaffirmed as intelligent practice, which is as much about thinking, seeing and interrogating as inventing and which communicates as intensely with others as it refers to the affective self"[2, p.432]

I developed a novel methodological contribution to research, moving the use of drawing as a research elicitation method or tool to being a research methodology. Further depth can be found on the Drawing Programme methodology in an interview with Janet Salmons, from Method Space. The Drawing Programme comprised four connected drawing workshops to enable people to explore their perceptions of getting older. Each workshop lasted three hours and ran over four consecutive weeks.

There were two groups, each with health professional students and people over-60. Every week, participants practiced different drawing techniques with different drawing tools. They individually created five drawings related to their future older self. Each person presented their understanding of their drawing at that point in time to the others before group discussion. Participants displayed drawings at home and sent me private reflections on their evolving insights about drawing and ageing. The core questions were "what happened in you when you did the drawing" and "what are your insights now?" as they reflected on their drawings over a three-month period.

I analysed the drawings, text from the conversations and the emails, as well as the actions from the video during the five key drawing activities. One outcome was that drawing enabled embodied cognition.

I used more of my senses than this sort of logical, conscious level every time when I was drawing (gestures different levels in-the-air with a flattened palm) and because of that I become more creative... more open. And very often, I did not know what the final effect would be, what the final product will be. I have no idea because we did not have much time to over-thinking (sic). I started to use the colours to express my feelings which I hadn't done before. And I combined my feelings with the drawing, or the other way round (Emilia [pseudonym])

Here, Emilia (a pseudonym) demonstrates this embodied cognition by 'drawing-in-the-air' through gestures as well describing the interplay of her sensations, an unconscious (or perhaps, subconscious) drawing/thinking, becoming more open and creative and the use of colours to express feelings or vice versa:

Participants described a dialogue working in many directions. One was that the drawing spoke or communicated to them. This concurred with what occurs during art-making where

… the work itself secures its own voice and helps set the direction …The maker is guided and, in fact, at times surrenders to the demands of the emerging forms […] The act of representation is not merely a monologue made manifest through the obedient responses of a material; the material itself speaks and creates new possibilities … [3, p.7]

There are many types of drawing that benefit learning. Some are representational and some more freeform. Sometimes the drawing itself is the purpose and less commonly the drawing process is emphasised.

During our global experience COVID-19, we have had to rapidly adjust to teaching through a screen. Additionally, the public have been shown many different drawings to communicate different perspectives of COVID-19. Drawings include diagrams of handwashing, schematics of the virus, infographics on social distancing, a cumulative graph of cases over a timespan, and colour-coded world maps to show density of confirmed cases.

I shared some images from my own and others' work on how drawing can be utilised. This demonstrated the broad scope of drawing and included:
• Doodling to improve memory
• Objectively representation of observations
• Recording data
• Documenting a process
• Explaining abstract concepts
• Organising complex narratives
• Uncovering & voicing the unconscious/ hidden
• Representing subjective experiences
• Processing uncertainty
• Analysing concepts
• Collaborative or group drawing
• Drawing to designing novel solutions
• Storytelling e.g., through graphic novels
• Campaigning and educating
• Embracing the Unknown
• Drawing to stimulate the imagination
• Drawing as a methodological tool for research

I hope this has whetted your appetite and you will experiment with drawing for teaching. There are many different drawing techniques in my book as well as suggestions of how to overcome common obstacles such as 'I can't draw'! To find out more ways that drawing benefits us, please contact me via Twitter or LinkedIn)

Excellent 'Drawing to Learn' booklets and other resources from Brighton University
Thinking through drawing
The Big Draw Campaign
Drawing Research Network
Rich Pictures - open access, animated tutorials
Felice Frankel's: an in-depth resource for drawing in science

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Curie's 2021 book Arts for Health can be found on the following link https://www.waterstones.com/book/drawing/dr-curie-scott//9781838673284

Improving student engagement in the virtual world of disease diagnostics
Nicola Veitch and Claire Donald

Dr Nicola Veitch (left) is a Senior Lecturer in the School of Life Sciences at the University of Glasgow, with a focus in Infection Biology. A Senior Fellow of Advance HE, Nicola has a keen interest in blended learning and digital technologies.

Dr Claire Donald (right) is a lecturer in the Institute of Molecular Cell and Systems Biology at the University of Glasgow. She has extensive experience of working within a molecular virology laboratory, and has an interest in digital technologies and creative learning within HE.
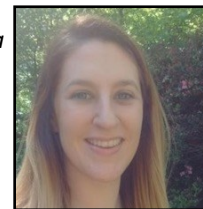
Background

In January 2020, all Higher Education teaching went online in response to the COVID-19 pandemic. This had a huge effect on how laboratory teaching in the Life Sciences could be delivered, with online labs replacing hands-on practical experiences[1,2]. A key laboratory for undergraduates in the School of Life Sciences (SofLS) at the University of Glasgow (UofG) is a 5 day long Molecular Methods (MM) course, that allows students to gain practical skills in molecular biology that are essential for future employability3. Under hugely challenging conditions, staff and students collaborated to develop an online platform using the local Virtual Learning Environment, Moodle, to deliver an online equivalent of the MM course (Figure 1). Staff and Graduate Teaching Assistants undertook extensive training in online course development in a time-sensitive manner to allow the resources to be made.

A different reality

As part of the online delivery of the MM course, a new bespoke Virtual Reality (VR) app was utilised. VR has shown promise as an educational tool and in skills development across many disciplines with research on the value of it only recently emerging [4,5] The VR app was embedded into a 'Disease Diagnostics' lesson within the MM course, with the user experiencing the processes involved in diagnosing a viral disease in an immersive research lab environment (Figure 2). This VR app had been recently designed by a team of scientists and the VR-design company, Edify, and was re-purposed to have the novel capacity to broadcast the VR environment by-proxy via Zoom. A staff member who coordinates and teaches on the MM course dawned a VR headset and from home, delivered 20 hours of lessons via Zoom to ~600 undergraduate Biology students covering multiple degree disciplines split into small teaching groups throughout the teaching year. A staff member with extensive knowledge and research experience facilitated the session, answering student questions about various topics relating to the lesson in real time.

Students experienced entering a VR disease diagnostics research laboratory that was modelled on a lab in the UofG, initially putting on a lab coat and washing their hands. Moving into the lab by teleportation, the user arrived at a sterile microbiological safety cabinet, in order to set up an experiment using automated pipettes. Various instructions popped up along the way, allowing flow from one set of tasks to the next. The staff member enabling the VR walkthrough talked students through each step, adding
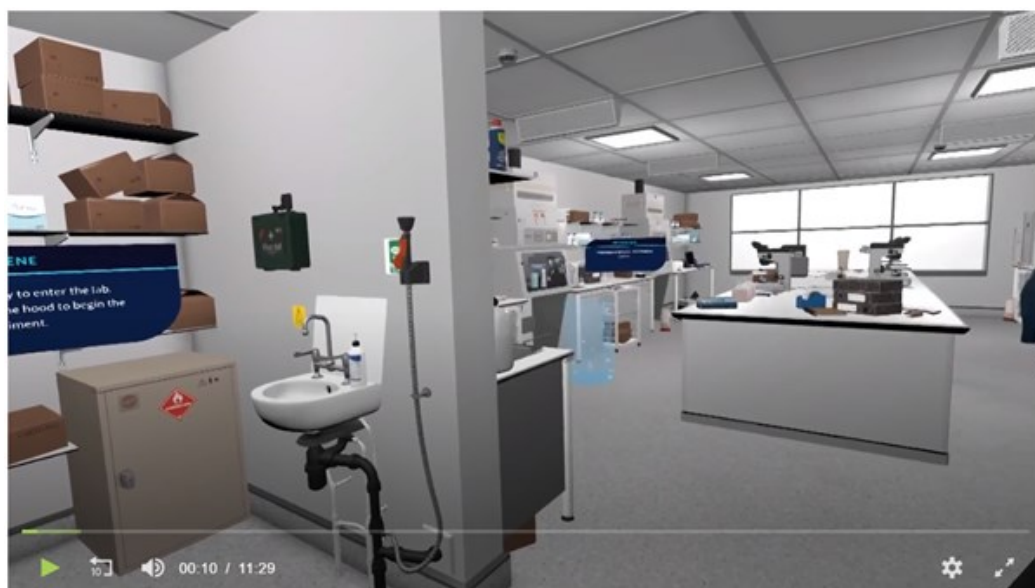
value to the VR lesson by including theory and practical experiences of common mistakes. The students visualised how to set up an experiment that was used to quantify the concentration of viral cDNA within human blood samples. The students were then teleported to a machine that processes the samples and generates data which was visualised within the VR environment.

The data that was visualised was then available for students to analyse as part of a Moodle quiz, that walked them through instructions on how to learn to process the data using R-studio.

Following on from the VR lesson, students were encouraged to ask questions live on Zoom to both staff members present. Lively discussions followed, with questions on all aspects of what they had experienced. Discussions focussed on the use of lab equipment, working in a sterile environment in a microbiological safety cabinet, differences in diagnosing various viral infections, including COVID-19, and how to avoid common mistakes. Discussions often moved on to cover careers in research and what it is like to work in a research lab compared to what the students had previously experienced in a teaching lab.

Feedback

Preliminary feedback from students indicated that students felt more confident in their understanding of the key concepts and that they had confidence they would be able to carry out these experiments in the future in a real-world setting. Many students however did comment that as individuals they would like to experience the VR lesson themselves using their own VR headset. Staff involved in delivering the teaching noted that it was an innovative way to show students experiments they would normally be doing themselves in a teaching lab during a pre- COVID-19 year. Not only did the experience allow the students to consolidate their learning from the online course material, but it also gave them a shared opportunity to get as close as possible to being within a real-world laboratory environment whilst working remotely. In addition, this is an environment they would not normally be able to access unless completing postgraduate studies or if working in a research environment, so having the ability to use these facilities was unique.

Conclusions

In the dramatic move to online teaching in March 2020, various positive outcomes have occurred. Staff and students have been trained in how to develop and deliver effective online teaching and various innovative strategies have been tried and tested. Using VR as a tool to deliver teaching online has proven to be an effective short-term replacement for lab-based teaching. Moving forward, students will have access to VR headsets on campus and will have the ability to experience this virtual disease diagnostics world for themselves. Scholarship studies are underway to investigate the effectiveness of this approach with a future aim to enhance the student experience.

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'I'm a Learning Technologist. Get Me Out of Here'.
A Techno-autoethnographic Poem
Pip McDonald

Pip is a Senior Learning Technology Project Officer at the Royal Agricultural University (RAU). She writes poetry exploring technology, enjoys contributing to internet radio, digital storytelling and creates podcasts. Follow Pip on Twitter: @PipMac6

Prologue

The Stories we tell ourselves, about ourselves, are incredibly powerful"[1] In 2019, I co-hosted a learning technology podcast called *ALT Mentions*. I created a spin-off fiction podcast called *TEL TALE* (TEL stands for Technology Enhanced Learning) in which a monologue of a Learning Technologist reflecting on their experience can be heard. The solipsistic audio adventure approach was inspired by the immersive fiction of *Within the Wires*. Reflecting on your own experiences can be valuable place to start to make sense of and share your ideas with a view to constructing new realities.

Image credit Eclipse Digital Imaging Inc (2021)

At the Royal Agricultural University (RAU), I worked with a Lecturer, William Leschallas, Head of Real Estate and Land Management to explore the idea of techno-autobiography in January 2021. What is techno-autobiography? Employing a techno-autobiographical approach provides a dynamic space and an opportunity to have a conversation about your historical relationship with technology. Can the past help us make sense of the future? Can the future help us make sense of the past? The blog post about the techno-autobiographical approach can be found here. It is possible to think "autobiographical incidents" [2]

Since January 2021, the idea of techno-autobiography evolved into exploring autoethnographic approaches. The idea that an autoethnographic "identity performance" really appealed (Clark, 2020). In May 2021, I performed a poem at the Write Out Loud open mic even alongside Dr. Lee Campbell, a Lecturer from University of the Arts London (UAL) (@leejjcampbell). Lee performed using himself as a green screen to project text and image with sounds repeating to create multimodal layers. His work involved both creative and autoethnographic storytelling. What if we provided both students and lecturers opportunities like this?

The poem is an amalgamation of a series of poetic attempts at exploring the use of technology in the modern world through an autoethnographic lens. Technology has almost become inescapable, particularly during the pandemic. As Learning Technologists, perhaps we are always supposed to be one step ahead of everyone else. Yet, it is good to be just as critical as you are enthusiastic about techno-normative pedagogical realities. "*Creativity comes from a conflict of ideas*" (Donatella Versace). We live with digital conflict, tension and uncertainty. *'I'm a Learning Technologist. Get Me Out of Here',* is both a poetic and speculative stream of conflict and digital consciousness, drawing on ideas including from T.S. Eliot's '*The Love Song of J. Alfred Prufrock*', S. T. Coleridge's '*The Rime of the Ancient Marine*r', '*Teaching to Transgress: Education as the Practice of Freedom*' by bell hooks (1994), in addition to Dickensian references and drawing on philosophy, popular culture, film and more.

'I'm a Learning Technologist. Get Me Out of Here'. A Techno-autoethnographic Poem
Pip McDonald

How does your digital garden grow?
Does your data reap what it sows?
Is it pride or digital prejudice?
What is this digital edifice?
Beauty and the digital beast?
When will this acceleration cease?
Jumping on digital bandwagons
From the dinosaur to the digital dragons
A storm in digital teacup
It's really hard to keep this all up
Another level of Dante's digital hell
Trapped in a technological shell
Shaken but not digitally stirred
All the lines are getting so blurred
Lost in a cloud in the digital haze
The oppression of the technological gaze
Real life with techno twist
What have I really missed?
The techno capitalist comes out to play
Do you come here often? What does your data say?
Born in a digital manger
Because things just got stranger
Now what happens to the Philosopher King
When AI gods are out in full swing?
There is no soul in this code
Bias is sent to try us, in multimode
Hope is resistance, surveillance insistence
Mind your own digital business
As we turn into our own digital witness
The best practice is to hide in plain sight
We disguise consent and fly our own digital kite
High in the sky we plot in the cloud
Dancing with data like a digital clown
Rocking and rolling with all the digital rocks
Ticking and tocking with the digital clocks
Techno corridors and realities collide
I'm truly out of my digital mind
Lost in the digital laundry in Zoom
Trapped in a small black box of doom
With my name and always on mute
Here's to the avoiding the digital salute
Who stole my legacy hand?
From the data wardrobe, do you understand?
What does it all really mean?
It's all a bit grey and a bit in between
Lock stock and two digital barrels
A pint of data then I'll be on my virtual travels
Life seems so digitally arresting
Why does it have to be so testing?
What about poetry in digital motion?
As idle as a digital ship upon a digital ocean

The techno poetics, the digital heretics
Have we been thrown under a digital bus?
What is all of this digital fuss?
Let us go then my data and I
While my heat map is spread out in the sky
The digital echo chamber in the room
Along with the elephant in digital bloom
Oh give me a break
You great big fake
Am I a file, or a USB?
Buzzing around like a digital bee?
I'm down with the loads
In a hive of digital toads
Just click 'save as' and hope for the best
The inevitability of digitally oppressed
Chasing digital waterfalls
Jumping over digital wonderwalls
Deathly digital hallows
As idle as a digital marshmallow
Deep inside the data ghettos
Trapped inside a digital archipelago
A digital atlas, of data sadness
The descent into digital madness
As we descend into the digital plateau
It's not me, it's the technology you know
If technology was a fruit
I'd wear my data like a suit
Five a day
What does the data say?
Data glorious data
Digital harvest or data hater?
Data ashes to data ashes
See my digital life as my computer crashes
Digital dust to digital dust
My, myself and my data distrust
Like a phoenix from the digital flame
All these pictures in a beautiful frame
If you're a 'host'
Then you're a digital ghost
Roar, soar, digital folklore
Story, glory, my data inventory
Digital history, magical mystery
Let's go on a tour, to the digital core
Explore our futures, data shakers and digital movers
Never knowingly, is data undersold
All that glitters that is definitely not gold
If I'm left to my own devices
Then life is full of digital surprises
The semiotics of my technology
The poetics of digital ecology
A kaleidoscopic glitch

A digital switch
Is there light at the end of the digital tunnel?
Is there an end to the data funnel?
The fellowship of the digital ring
The hills are alive so let us sing
Eternal sunshine of the digital mind
Sadly, my data has left me behind
A digital thorn in my side
What will my data really provide?
All face and no book
Get me of the digital hook
Escapology of digital mythology
Eco digital, data miracle
Invincible, yet unforgivable
What is the data forecast? A lot of digital contrast
Cloudy with a chance with digital rain
Please just let me try to explain
Unapologetic, a digital relic
The exquisite appeal of the digital aesthetic
A digital totem, data is broken
Data can be good, bad and ugly
Digital mess doesn't fit too snuggly
Technology's empty promise
Is just a quantum of digital solace
A pivot within a pivot around the digital globe
The lion, the witch and the digital wardrobe
Data is invincible, predictable yet irresistible
I feel like a roar coming on
Can data sing its own very song?
Digital languish and anguish
Digital antiquities and ambiguities
Great digital expectations
Digital trials and tribulations
"Please Sir, can I have some more data?"
"No, certainly not, if you are a digital hater"
What would Alexa say if she said what she really thinks?
"Sorry I don't know that one" my digital heart sinks
"I know what I want to say, but I can't find the words"
To kill a thousand digital mockingbirds
As I develop my digital craft
Man plans and digital gods laugh
Teaching, learning and technology
Is this the newfangled holy trinity?
All the digital bells and whistles
Disguising the digital hells and thistles
Mirror, mirror on the digital wall
Whose data is the fairest of them all?
Little digital fires everywhere
Is this really a pedagogy of care?
A night at digital museum
A data athenaeum

How it started and how it's going
With digital origami flowing
Nothing to see here
Both being and digital nothingness are clear
Zoom & the art of motorcycle maintenance
Let me make your digital acquaintance
From wellbeing and mindfulness
To analytics and techfulness
All the hidden digital forces
Are only fools and digital horses
All technology, great and small
Some will work and some will fall
The proof is in the digital pudding
But what are we really cooking?
Have your digital cakes and eat them
And after that, well what then?
A thousand digital plateaus
An enormous data gateaux*
One hundred years of digital solitude
How have we become so digitally shrewd?
All my data is so vivid
The day of the digital triffids
404 Sorry not found
I can hear everything but there is no sound
The robot who cried digital wolf
The endless enigma of the digital gulf
Fantastic technologies and where to find them
It's not a question of 'if' but of 'when'
What digital shadows does data cast?
Perhaps the future is a guide to the past
How can I navigate this inevitable path
Without bringing about my own digital wrath?
Who am I and what can I be?
Hell is other people and their technology
No exit from the digital narrative
If our future is shared, then why isn't it collaborative?
I work in tech, therefore I am
The house that tech built, is like a digital wigwam
How can I make sense of the digital totem
When everything is undeniably broken?
Digital dominoes, all falling down
The data ocean, in which we all drown
Let's make tech great again!
But is your data really your friend?
Technology to transgress
My digital distress
The negative space in the virtual world
What if I am tomorrow's girl?
Digital apocalypse now
What will data allow?

Perhaps we need a *tabula rasa*
The data flows like digital lava
The digital canvas like *la pelle du vide*
Bringing out the digital void in me
How to train your digital dragon
While falling off the digital wagon
The digital wheels are all on fire
What if data couldn't get much higher?
Putting the pivot into pivotal
Why is everything so digital?
From remote working with love
I walk on digital splinters
A thousand digital winters
What if my hand does not fit inside the digital glove?
Wayfinding inside a digital palace

Editor

I am intrigued to discover why people do the things they do and I asked Pip "is there a backstory to the poetry you write? Is it a form of creative expression that you use elsewhere or only in the context of technology? Who do you write for - only yourself or yourself and others?" I thought her reply well worth including as it provides some interesting perspectives on Pip as the uniquely creative person she is. It made me realise once again that the narrative of how we came to be who we are is so much more than the biographical note with which we present our selves at the top of an article.

Pip

As a Learning Technologist, I needed to train staff over the pandemic on how to use Zoom etc as lots of us did. One approach was to encourage staff to talk about their experience of using technology in the past, what worked/did not work, to try to get an understanding of why they felt the way they did about Technology Enhanced Learning (TEL). I called this techno-biography, worked with one Lecturer to explore this and we published a blog post in the RAU's Digital Transformation blog together here. The techno-biographic idea was also in a research poster at the Inclusive Learning Lab UNESCO event here. I then did some further thinking. What if I asked myself the same questions I asked the Lecturers? This evolved into exploring the autoethnographic approach, something I had overlooked before/not fully understood. Perhaps things seems to go back to the simplicity of 'self and other' and giving each other and yourself space to explore ideas.

I have been re-writing famous poems with technology twist for fun and performing them an open mic poetry/spoken word events in London, such as John Clare's 'I Am!' to 'I Am (Online!)' and Dylan Thomas' 'Do Not Go Gentle Into That Good Night' into 'Do Not Go (Digital) Into That Good Night'. One of the fun ones to reimagine was Shakespeare's Sonnet 18 into a Digital Sonnet 18 which was published in the JoyFE 17 magazine here. Perhaps it is a form of playfulness. From monologue to technologue?

Whilst technology is clearly a dominant theme and will continue to be, I do write other poems/spoken word including at story-telling events including one in Bletchley, online at Zoom events and in London. I have also just written a poem for the British Bilingual Poetry Collective (BBPC) as a Guest Poet entitled 'A World Without Language' to be performed at the end of January in East London.

In terms of future plans, I hope to perform the poem in #CreativeHE magazine as part of a presentation at the Women in Academia Support Network (WIASN) Virtually Undisciplined: Diversifying Higher Education and Research Conference entitled The Possibilities of Techno-Poetics. The Techno-autoethnography could be developed into an interdisciplinary method, particularly in a collaborative capacity. I'm also hoping to use the techno-autoethnograohy as a theme for one of the next Edtech Outlaws group meetings (learning technology professionals working in arts based contexts created by Puiyin Wong, @Puiyin, from RCA).

Meaning-Making Through Creativity During COVID-19
Hansika Kapoor and James C. Kaufman

Dr. Hansika Kapoor is Research Author at the Department of Psychology, Monk Prayogshala. Having completed her Master's degree in Clinical Psychology, she has completed her PhD from India Institute of Technology, Bombay in the area of creativity. Her research interests lie in cognitive science, social psychology, and gender studies.

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Introduction

The COVID-19 pandemic resulted in an abrupt change in routines and livelihoods all around the world. This public health crisis amplified a number of systemic inequalities that led to populations needing to grapple with universally difficult truths. Yet some individuals, firms, and countries displayed resilient and creative responses in coping with pressing demands on healthcare and basic sanity. Past work has suggested that engaging in creative acts can be an adaptive response to a changing environment. Therefore, the purpose of this paper is to describe how entities at the personal, community, and national levels cultivated and expressed creativity in an effort to make meaning during COVID-19. By overlaying the Four C model of creativity on such responses, we aim to (a) to connect mini, little, Pro, and Big creative behaviours with our attempts to make meaning of the ongoing COVID-19 pandemic, and (b) to suggest how engaging in creative expression can be used to guard against the adverse consequences of this outbreak. Acknowledging that this time has been and continues to be distressing and filled with uncertainty, we propose some ways of making sense of current events by applying original thinking across domains. Further, we propose how engaging in creativity can serve to buffer against the negative effects of living through the pandemic.

> "**It is not the strongest of the species that survives, nor the most intelligent.**
> **It is the one that is the most adaptable to change**." – *Charles Darwin*

The ongoing COVID-19 pandemic has resulted in 1.4 million deaths and over 58 million infections worldwide at the time of writing (Dong et al., 2020). These numbers are on the rise, as is the resultant socioeconomic discord across the globe. This includes criticism of local and national government policies in response to the pandemic and adverse economic consequences of halting trade and transport between nations. The year 2020 has been upsetting not only at the global level, but also closer to home—with individuals, families, and communities bearing the brunt of changes in daily routines and habits. These disruptions are because some of the primary ways to contain the spread of the virus are by maintaining physical distance from others, regular hand-washing, and wearing masks in public. The pandemic has thus had a great deal of collateral damage, such as stress and fear, even for people who have not become ill (Pfefferbaum and North, 2020). It is unlikely that we will see major positive changes any time soon.

What does this worldwide event mean in the grand scheme of our lives? Could it plausibly be a paradigm shift in how humanity views itself and the world or are we waiting for a vaccine to be developed so that things can return to normal? What does it mean to lose a loved one over the phone, without the ability to be by their bedside because of the risk of contracting the virus in that short span? During such times, it is natural to seek out meaning in life. There are many pathways and sources of finding such meaning; one such example is through the act of creation and engagement in creative pursuits (see also Sligte et al., 2013). Therefore, the two chief aims of the present work are (a) to connect different levels of creative behaviours with our attempts to make meaning of the ongoing COVID-19 pandemic, and (b) to suggest how engaging in creativity can be used to shield against the negative consequences of this outbreak. An ancillary objective is to document the scope and kinds of originality displayed by laypersons and experts alike during this historical time.

Meaning-Making and Creativity

Many modern theories of meaning-making have their roots in classic humanist scholars from many decades ago. Maslow's (1943) hierarchy of needs culminates in self-actualization, in which a person is able to fulfil their potential. There are many ways one can achieve this peak; one path is by utilizing personal abilities, which can easily include maximizing

creativity. Frankl's (1946) approach to how people find meaning in their lives derived from his experiences in concentration camps. He proposed three ways that people can achieve meaning: (a) creating or completing a particular task or work; (b) through an experience or interpersonal connection; and (c) how people face unavoidable pain and suffering. Lifton (1979, 2011) studied both survivors and perpetrators of wartime evil and focused on the idea of symbolic immortality. We are all mortal and must face the prospect of an inevitable death. As a result, one way we cope is by seeking out symbolic immortality, or a way of living on even after we die. Lifton proposed five ways that this path can be reached: (a) having children; (b) focusing on links to the past and future through our physical matter; (c) turning to spirituality or religion; (d) deciding to live each moment to its fullest possible experience; and (e) emphasizing the impact of one's work, mentorship of others, and creative output. The role of creativity in finding meaning is both explicitly stated and implicitly found in many other components of both Frankl's and Lifton's conceptions.

More recently, Martela and Steger (2016) propose that there are three key aspects of meaning: Coherence, significance, and purpose. Coherence is being able to make sense of one's life, as opposed to seeing the past as being a series of random and chaotic events. Significance is seeing value, joy, and connection in one's everyday life. Purpose is having plans and goals for the future. Kaufman (2018) highlighted many ways in which creativity can serve all three dimensions of this conception of meaning. It is important to note that across all of these (and other) models, creativity is but one way to achieve meaning. Spirituality, empowerment, and benevolence toward others are equally viable pathways depending on the individual (e.g., Bailey et al., 2019).

One way to enhance coherence is to engage in what is often called the "writing cure" (Pennebaker and Beall, 1986; Pennebaker, 1997). This process entails writing expressively several times a week about personal, emotional topics. This writing does not necessarily need to be creative in nature (it could be keeping a journal, for example), but it needs to have some element of a narrative (Pennebaker and Seagal, 1999). People who write under these broad guidelines have been shown to have notable benefits in both physical and mental health (Travagin et al., 2015). In general, writing a memoir about one's past has often been used as a tool in therapy (Riessman, 2003).

Creativity can help people reach significance in many ways. Most strikingly, the act of being creative can be enjoyable and enthralling all on its own, regardless of any specific outcome. Consider Csikszentmihalyi's (1996) concept of Flow, in which one is actively engaged in a pleasurable pursuit. These can also include athletics or other favourite hobbies, but creative undertakings are a common way to enter Flow. This sensation of being immersed in something creative, often losing track of time and one's surroundings, can be intensely joyful. Living a life filled with such pleasures is one way to enhance significance. Similarly, art-making has been shown to improve one's mood; as opposed to the mechanisms of the "writing cure," art-making helps because it is fun and distracting (Drake and Winner, 2012, 2013). Finally, experiencing creative works such as art in the shared presence of other people (i.e., in a museum) increases feelings of connection (Smith, 2014).

Creativity can help people feel increased purpose in a variety of ways. Creative writing can help people articulate better career narratives that can help them strive for more meaning in their work (Lengelle et al., 2016). Continued generativity across the lifespan can help prevent people from feeling stagnant (McAdams et al., 1993). Further, the need to leave a legacy, similar to Lifton's (1979) symbolic immortality, can lead people to pass along their creativity in any form, whether to family members and friends or to the world at large.

In these times of uncertainty and change, the need to find meaning is even more salient. During this pandemic, several aspects seem uncertain and undetermined: from who catches the virus and the extent of its physical impact to each country or region's changing response. Consequently, the need for coherence in one's life becomes essential. As lockdown has continued to be in effect around many parts of the world, our interpersonal connections have often been weakened and daily moments of joy or value may feel rare. We need to find significance more than ever. Finally, with an unclear future and both short- and long-term uncertainty, finding purpose is crucial to moving forward.

The Four Cs During COVID-19

In this context and beyond, a useful taxonomy to analyze creativity is the Four C model (Beghetto and Kaufman, 2007; Kaufman and Beghetto, 2009). This framework proposes a developmental trajectory that can play out over one's lifespan or over one's activity in a particular domain. It begins with *mini-c*, which categorizes explorative behaviour that may not necessarily be novel in a larger, historical sense, but is personally meaningful to the individual creator. For instance, when a child creates a secret handshake to be used only with certain others, they display mini-c creativity. *Little-c*, or everyday creativity, comprises those actions that most of us engage in on a regular basis, such as finding new ways to redecorate one's home or coordinating mix-and-match outfits. Both mini- and little-c creativity are manifested by non-specialists. The next category of *Pro-c* is reserved for those who are approaching or have reached expert-level creativity, but may not have achieved eminence yet. A professional chef at a local restaurant would classify as Pro-c. If this individual makes an innovative cooking contribution (such as creating a classic dish) that people continue to enjoy for years after their death, then they can be considered to have progressed to the last category of *Big-C* creativity. Often regarded as geniuses in their domain, Big-C creators can represent the peak of what may be achieved.

In the context of COVID-19, the Four C model provides a systematic structure to analyze the surge of original behaviour, both online and offline. Mini-c and little-c behaviours are displayed at the personal level and are intended to assist with coping, distraction, or simply finding amusement at a time like this. Such endeavours can be common; one experience-sampling study indicated that people were in the process of doing something creative nearly 22% of the time (Silvia et al., 2014). Past research has suggested that partaking in everyday creative activities is associated with positive affect and well-being (Forgeard et al., 2014; Richards, 2007). In light of the pandemic, it is possible that this frequency has increased as a means to cope with current uncertainties and insecurities, enabling one to seek and find significance in the mundane (Martela and Steger, 2016). Moreover, a principal motive for everyday creativity was enjoyment (Benedek et al., 2019), something that became a scarce experience when lockdowns were enforced.

In the initial months of the quarantine period (ranging from January to April 2020 across different countries), social media became an especially popular platform for expressing such creativity. For instance, a 9-second video of a sock puppet eating up cars in moving traffic (@gnuman1979) was posted on March 16, 2020 and went on to accumulate more than 3 million likes[1]; the caption was plainly, "Quarantine Day 6." The post was one of the first of a number of other original videos of people trying to maintain their sanity by performing regular or whimsical activities, despite the lockdown. For instance, another post (@NigheanMo) showed a man using a combination of dish soap and water to create a makeshift treadmill against the kitchen counter[2]. Other posts, such as those of parents trying new ways to keep their children busy while they worked from home or people trying to play tennis across windows or rooftops, also represented everyday creativity.

Another trend that rapidly went viral was individuals dressing up in Halloween and other costumes to take out the trash. "Bin Isolation Outing" became an accepted way to have some fun when disposing of garbage and simultaneously meeting the requirement of wearing a mask or face covering when outdoors. Using toothpicks to press elevator buttons or covering light switches with saran wrap were other creative ways to restrict touching surfaces in public spaces. People with basic sewing skills started making homemade masks so that the supply of essential PPE (Personal Protective Equipment) could be reserved for healthcare workers. Residents in Italy, one of the earliest and hardest hit countries in the pandemic, took to singing from their balconies to maintain solidarity in difficult times. A few UPS employees took to dressing up as superheroes to bring some cheer into their customers' (and presumably their own) lives. Across the world, appreciation for those on the frontlines of the fight against COVID-19 was displayed through applause, sirens, honking, and generally making a din. Such demonstrations allowed people to express their gratitude while still staying sheltered, thus representing an original use of space and sound. Moreover, these creative behaviours are recorded and disseminated via social media, accessible to most across the world; potentially, with enough exposure and appreciation, some of these little-c activities may become Pro-c. Even if not, these original nuggets along with this paper could be viewed as a way to make coherent sense of the chaotic twists our lives have taken in the past months.

Those employed in creative professions also took to innovatively using their skills during the pandemic expressing Pro-c abilities. Several professional musicians provided free online home concerts in an effort to raise money for relief work through donations. All types of artists took to offering online classes to help at-home parents entertain their children. Healthcare workers also joined in by (unfortunately) having to innovate their PPE in the absence of adequate supplies. The video of an Olympic swimmer (@SvRouwendaal) innovatively using a bungee cord to develop resistance as she trained in a kiddie pool made the rounds on social media as well[3]; it exemplified the back-and-forth between the Cs, wherein a professional sportsperson engaged in everyday creativity to solve the problem of staying active during the lockdown. Any CEO of a business, large or small, was compelled to adapt to changing circumstances to keep from going under. Some professional chefs volunteered to cook and distribute meals to those in need. In terms of scientific creativity, researchers began working toward developing a vaccine against this novel coronavirus as soon as its genetic sequence became available in February 2020 (Ren et al., 2020). The pandemic also brought together the global scientific community, paving novel ways for collaborations and partnerships to defeat a common enemy. Moreover, behavioral researchers took to conducting surveys and using social science to help enforce social distancing norms across the world (e.g., Tagat and Kapoor, 2020). The need to make meaning and find purpose in an uncertain and confusing situation using one's professional skills was observed in some manner across the board.

The significance of the creative economy and of cultural industries came to the fore early on during the pandemic. Laypeople turned to the creative arts to seek solace and make sense of the ongoing crisis. The concerns of those in creative occupations, although longstanding, became much more visible owing to the COVID-19 outbreak (Comunian and England, 2020). Yet, a wide variety of experts across the globe persisted in resiliently displaying their Pro-c across diverse occupations, from teachers to late-night comedians. The former had to creatively adapt to using technology in the virtual classroom, whereas the latter had to build workarounds for taping shows from their homes and learn how to deliver material in the absence of feedback from a live studio audience.

To reiterate, those who achieve eminent status as a result of their professional creative endeavours may possibly go on to reach Big-C. Usually, this transition is determined by the passage of time and by the reputation earned by the individual over

the course of their lifetime (and beyond). However, at a time like the current pandemic, there are some individuals who have displayed what could end up being considered Big-C creativity across the mere span of months. Similarly, there are others who may be at the cusp of achieving Big-C eminence based on their response to the pandemic. The obvious frontrunners in the latter category are the teams of scientists (all currently Pro-c) who are working on developing a vaccine against the novel coronavirus. For instance, prior to the current outbreak, researchers at the Oxford Vaccine Group were developing a vaccine for MERS (Middle Eastern Respiratory Syndrome). Clinical trials for this vaccine were underway when COVID-19 began spreading across the world; the researchers pivoted their agenda from developing a MERS vaccine to a COVID-19 vaccine, thus enabling them to gain a head start in the race for this novel virus (Masetti et al., 2020).

Among politicians and government officials, the efforts of Jacinda Ardern (Prime Minister of New Zealand) and Gavin Newsom (Governor of California) bear mention. Ardern was one of the first world leaders to enforce strict travel restrictions as well as state-mandated quarantine for incoming passengers, as early as February 2020. This move was implemented unapologetically to secure the safety of the country's citizens. It was an early and effective step, with New Zealand's COVID cases sharply declining since mid-April 2020. Ardern's combination of strategies represent a highly appropriate and original response to the rapidly evolving situation. Similarly, Newsom responded to the crisis by facilitating an online marketplace where citizens requiring PPE could purchase it directly from California-based businesses who had pivoted their operations[4]. This move side-stepped arduous wait times for crucial and life-saving equipment needed by citizens and businesses alike. Such innovative and creative problem-solving is needed to deal with this public health crisis effectively (see also Cohen and Cromwell, 2020). Depending on the continued impact and historical view of their actions, they could end up as Big-C politicians.

Another potential contender for future Big-C status is Indian movie actor Sonu Sood. In March 2020, India responded to the ongoing spread of COVID-19 with a nationwide lockdown, halting national and international transportation nearly overnight. This action meant that millions of migrant laborers in metropolitan cities like Mumbai were stranded, with no source of income and no way to return home. Sood coordinated with state governments and transportation agencies to arrange special buses, trains, and flights to ensure that migrant workers and their families made their way to their respective home states. Sood initially sought such requests on Twitter and coordinated with passengers using the social media platform. He also launched a website called *Pravasi Rojgar* (Migrant Employment) that features job opportunities across India for the displaced workers. Sood's coordinated and sustained effort to not only help migrants travel home, but also reintegrate them into the labour force was lauded across India. This humanitarian work may contribute as much to his legacy as the movies with which he has been associated.

Overall, we observed that as creative actions progressed across the Four Cs, individual-level behaviours expanded to community and even national level involvement. Although it is difficult to neatly delineate group creative processes from individual ones, it is likely that the former thrived when leaders encouraged innovative solutions (Paulus et al., 2012), be it in companies or governments. By design, collaborative creativity reduced during the pandemic when lockdown was enforced; for instance, musicians, actors, or other creative arts professionals were confined to their homes with little scope to jointly create, at least initially. As with everything else, such collaborations moved online, giving further credence to the role that creativity plays in achieving coherence, significance, and purpose (see also Kaufman, 2018).

Creativity and Creation as a Buffer

By definition, creativity encompasses original and appropriate behaviours (Plucker et al., 2004; Runco and Jaeger, 2012). Yet, individuals amidst the pandemic were drawn not only to behaving creatively but engaging in the act of creation itself. For instance, the proliferation of people wanting to bake sourdough or make Dalgona coffee in April 2020 and onward was a prominent trend in middle to upper income households. However, this act is less likely to qualify as creative over a period of time because a central tenet is that creativity, namely originality, decays with the passage of time. Nonetheless, individuals continued to have the need to express or distract themselves through creating *something*. The very act of making something seems to have value by itself, possibly as a method to cope with uncertainty and tolerate ambiguity (see also Zenasni et al., 2008; Kornilova and Kornilov, 2010; Merrotsy, 2013). It is important to note that these needs can be met through production or activities that might not be seen as creative by other people. The concept of mini-c highlights how personal inspiration can be quite meaningful (Beghetto and Kaufman, 2007), and it is possible for people to be creative in ways that they themselves may not recognize (Kaufman and Glăveanu, 2020) or even be consciously aware (Cropley and Cropley, 2009).

Simultaneously, there has been a noticeable trend of people around the world consuming similar creative content. Those individuals with access to resources binge-watched similar programming (such as the Netflix documentary *Tiger King* or the Amazon series *Paatal Lok*) around the same time. Of course, some of the reason was that people were largely restricted to staying in, so any home-based activity was more likely to be pursued. Yet it is consistent with past studies of aesthetic appreciation (Smith, 2014) that we can feel connected to others by consuming the same creative content (and, often, discussing such works with each other online; Biasutti, 2015). For instance, viewing and listening parties have become a popular way to experience this connection virtually during the quarantine.

In a similar vein, research has identified associations between creativity and building resilience, particularly as a response to adversity (Metzl and Morrell, 2008; Metzl, 2009); as an important component of responding to disasters (Kendra and Wachtendorf, 2003); and as a facilitative process in achieving post-traumatic growth (Forgeard, 2013). Psychological resilience is mental armour against crises, resulting in successful adaptation to the current circumstance (Fletcher and Sarkar, 2013). Similarly, creativity is characterized by generating adaptive responses to respond to new conditions and environments (e.g., Cohen, 2012). Therefore, we argue that making meaning through any kind of creative expression is an adaptive and resilient response to the ongoing pandemic. This connection is particularly strong because the COVID-19 outbreak has made human morality incredibly salient. Past research has found that in the face of such existential crises, creativity can not only increase, but tends to be directed toward establishing a legacy (Routledge et al., 2008; Sligte et al., 2013; Kaufman, 2018).

The psychological consequences of the current pandemic are catastrophic, including generalized anxiety, depressed affect, insomnia, and fear across the world (e.g., Huang and Zhao, 2020; Shevlin et al., 2020; Tang et al., 2020; Torales et al., 2020). Although expressing oneself through creative actions is no silver bullet, such expression can build resilience and lessen the impact of current stressors. Research has identified how participatory arts projects can foster well-being in the community (Cameron et al., 2013), particularly in older populations (Liddle et al., 2013). Given current stressors—and their potential profound impact among the elderly, who are most at risk—it may be time to seek and implement similar innovative solutions to combat downturns in mental health and productivity. For instance, artist teams can set up workshops within online communities to facilitate artistic expression as well as promote healthy behaviors. Given that scholars on vulnerable older populations have pushed for exploring interventions beyond the arts (e.g., Bellass et al., 2019), this time may be particularly apt for such new directions.

However, the dark side of creativity at a time like this cannot be discounted (e.g., Cropley et al., 2010). Ranging from students downvoting homework applications to remove them from app stores (Cuthbertson, 2020) to fake coronavirus testing kits (Tahir, 2020) to rampant misinformation and conspiracy theories related to COVID-19 (e.g., Uscinski et al., 2020), the use of originality for self-gain has persisted. Without additional research, it would be premature to make assumptions about the extent to which such creativity fuels meaning-making for its actors; however, these examples may be coherent, significant, and purposeful in their own right, arising from an amoral creative process (Runco, 2010).

COVID-19 is the largest natural experiment that humanity has been subjected to in recent times

Conclusion

The pandemic has amplified pre-existing inequalities the world over, including fragile healthcare systems and mismanaged funds. In the wake of this "experiment," creativity under constraints has emerged (e.g., Haught-Tromp, 2017; Medeiros et al., 2018)—and how. Overall, people across all levels of creative accomplishment and ability have attempted and succeeded at responding to emerging challenges with a wide array of innovation and originality. In this paper, we argue that such creativity is an avenue to make meaning of current happenings. After all, it is second nature for us as a species to enjoy the presence of meaning as well as to seek out meaning in our lives (see also Li et al., 2020).

Future research can aim to identify relationships between engaging in creative actions and meaning-making empirically. A mixed-methods approach may be well-suited to answer the broad question of whether and how a creativity intervention can influence individuals' sense of well-being and purpose in the midst of a pandemic. Moreover, as COVID-19 has had varying impacts across age groups, targeted studies can infer if creative thinking is a safeguard worth investigating. A vast amount of scholarship suggests using creative expression to cope better and achieve post-traumatic growth through artistic, literary, and similar endeavors (e.g., Pennebaker, 1997; Drake and Winner, 2012; Forgeard et al., 2014). Therefore, we propose that regularly engaging in some creative activity can be associated with improved well-being and coping during the pandemic. An example could be a creative expression intervention, documented using videos, storytelling, and photography; the task could involve uploading a picture or video of an object/scene at home and writing a story about the same, once a week over the course of 4 weeks.

At a broader level, Cameron et al. (2013) developed guidelines to organize participatory arts projects in local communities to promote well-being. Subsequent research can investigate whether using participatory creativity interventions can help design future activities and lead to reimagining of spaces, repurposing existing resources, bridging gaps in socioeconomic disparities, and the cultural landscape (e.g., Lewis, 2013). Such research can contribute to the existing literature in the areas of resilience, meaning-making, social identity, and post-traumatic growth.

We assume that a vaccine will eventually be discovered and at that time, we will have to decide how to move forward with establishing a new normal of fundamental human interaction, systems, operations, and processes. All our collective creative energy that has been released during the quarantine/lockdown may help shape this new normal, or else we may revert to pre-outbreak times with little to show for our lived experience (and shared trauma). The months between the declaration of COVID-19 as a pandemic and the mass rollout of a vaccine are ripe for creative solutions across domains; divergent thinking has dominated our problem-solving at this time. After the development of a vaccine, we would need to employ convergent

thinking to then consolidate and evaluate the several solutions we have devised during this period. For instance, as social distancing is important to mitigate the spread of the infection, several activities have predominantly or entirely moved online. Virtual academic conferences, e-learning student activities, and educational webinars have mushroomed in the past few months, providing a sense of interactivity and knowledge sharing. The bright side of such virtual events is their increased accessibility to individuals across the globe, regardless of status, funding, or even time zone. There are, of course, many downsides as well, such as reduced personal interaction, decreased revenue for conference organizers (registration fees and overheads of online events are usually nominal in comparison with in-person standard fees), and the limits of passive learning. What will happen once the pandemic is under control and it is safe to organize such events offline and in person again? Will virtual events continue to be offered in a hybrid model (with offline and online presentations) or will we revert to the way things were, with more restricted access to information and people? Will the regular online arts exchanges become part of our routines, or are they purely due to circumstance? It is a paradox that at such a dark time for the performing arts, when an astoundingly high percentage of workers in these professions are unemployed due the pandemic (Lang and Maddaus, 2020), it is also a moment when such performances have become accessible to more people than ever before. A watershed event such as Disney Plus screening the filmed *Hamilton* may have turned countless people onto the glory of theatre at a time when actual live theatre is largely impossible. The performing arts also can serve as an example for how to potentially transition lockdown learnings into a post-pandemic world. One reason why *Hamilton* was such a rarity is that in the past, shows have infrequently been publicly streamed because of complex nuances of determining royalties and rights. In the initial months of lockdown, copyright issues were largely overlooked. As streaming productions became more common and most theatres began to utilize this technique as a way of bringing in some revenue, the two unions for theatre and film actors came to an agreement. The theatre actors' union can represent streaming work until December 31, 2021, as opposed to having actors in streaming productions also be required to join the film actors' union (Meyer, 2020). If a similar type of arrangement can be put in place on a more permanent basis, online streaming theatre may continue to be commonplace after the virus is but a memory. The idea to not let this creativity go to waste seems noble, yet this decision is to be taken collectively and collaboratively. Currently, online interactions are the best solution we have because it is simply not safe enough to travel or interact with others on a regular basis. Relatively few people, given an equal opportunity to pursue either option, would consider such online meetings to be superior to face-to-face interactions. However, we are now presented with an opportunity to modify such preferences, which can have meaningful consequences for the future. For instance, restricted travel has effectively reduced emissions, thereby impacting the environment (Helm, 2020). The pandemic has forced us to reassess priorities, emphasize distinctions between needs and wants, and alter consumer behavior (Sheth, 2020). Creative expression, especially in music and film, has also been modified through low budget productions by artists in their homes. The adage of *less is more* is seeming to be verified in real time, owing to the effects of resource scarcity – but not necessarily time constraints – on creative output (Mehta and Zhu, 2016).

As we move forward, the ideal situation would allow us to have the best of both worlds—the connections that we had lost as well as the new skills we have gained. The way the pandemic will have shaped our future behaviour will remain unknown for the time being. Until then, we can choose to focus on our creative present, keeping somewhere in our minds all of the potential ramifications.

Postscript: Meaning-Making Through Creativity During COVID-19

At the time of writing the manuscript *Meaning-making through creativity during COVID-19* (Kapoor & Kaufman, 2020)*,* I was alone in the United States finishing my post-doctoral fellowship (till May 2020 when I returned to India). In all honesty, the manuscript itself was an attempt to make sense of what was happening in the world at the time. Thankfully, research ideation and writing are creative endeavours for my co-author and I, which made this article more—for lack of a better word—meaningful.

As I sit down to write this piece in January 2022, the COVID-19 landscape has evolved across the globe. Amidst the new Omicron wave, individuals, communities, and nations are once again finding themselves grappling with resource shortages, changing restrictions, and emerging uncertainties. Throughout the pandemic, we, individually or collectively, have been forced to problem-solve, innovate, and find new ways to adapt. One such way is via creativity and performing creative actions that serves the dual purpose of making meaning as well as mitigating against negative effects of living through a pandemic (Cui et al., 2020; Tang et al., 2021). Specifically, research has found how engaging in creative pursuits can buffer against anxiety, brought on by mortality salience (such as worldwide reports on COVID-19 infections and deaths).

At a more practical level, this could involve a range of creative activities—from baking to making music. And this also involves learning new ways to express creativity, such as taking up a skill or hobby. For instance, we proposed how engaging in regular creative expression, perhaps via photography or storytelling, could help build resilience and achieve post-traumatic growth at this time. This remains a thought experiment thanks to a lack of research funding; however, the premise can be tested at an individual level too. Personally, I took to jigsaw puzzles, metaphorically a way to put things together when the world seemed to be falling apart.

Of relevance are three core aspects of meaning: coherence (that life makes sense), significance (that there is value in everyday life), and purpose (that there's something to look forward to; Martela & Steger, 2016). Creativity helps build all three aspects in multiple ways, often by establishing a legacy via creative output—something tangible that lives beyond your physical being (Kaufman, 2018).

Using the Four C model (Kaufman & Beghetto, 2009), we saw how individuals engaged in mini-c, little-c, Pro-c, and Big-C endeavours throughout the pandemic (and continue to today). Mini-c and little-c creativity, which is personally significant to the entity partaking in it, soon flooded social media accounts and other news outlets, with individuals or collectives coming up with non-traditional ways to do something mundane. Those in creative professions also expressed Pro-c by finding new ways to sustain their trade as well as by adapting to changing norms regarding entertainment, hospitality, and other sectors. Finally, some who may be on the path to achieving Big-C status executed radically novel solutions for the benefit of several.

However, over a period of time, we also see how originality and creative processes may decay. Today, the new normal is brought about by the pandemic… is just normal. Most people continue to wear face coverings, wash their hands frequently, maintain reasonable distance from others, and so on. Today, the novelty of designer face coverings or finding a new way to exercise while in quarantine in your apartment do not necessarily make headlines. Our motivation to engage in the same or similar kind of creative problem-solving may have also dwindled over time. And this may not be associated with a reduction in our creative capacities, but rather with our lower need to adapt to an ever-changing and uncertain situation. Compared to March 2020, a majority of individuals may be more certain about aspects of their lives today—their next meal, payday, exam, review, whatever it may be. Over the last two years or so, the world normalised into how we function right now; the sense of lost meaning may have collectively returned, or the fundamental essence of meaning could have evolved.

This is not to say that creativity is not functional today—it will continue to be as long as individuals want to generate and sustain meaning in their lives. However, at the start of the pandemic, there was a heightened need for the same, compared to now. In 2020, we had no vaccines. As of January 2022, nearly four billion people have received two vaccine doses (Ritchie et al., 2020). Scientific advances like these also build meaning and give hope, at least to the sections of the population who trust science. However, as several of us have come to understand in the past few years, the universe is a random place with seemingly meaningless things happening all the time. It's up to us to make meaning, and I'd urge you to give creative pursuits a fighting chance.

Dr. Hansika Kapoor
January 18 2021

Acknowledgement

Footnotes

1. **^** https://bit.ly/2WzFGJN
2. **^** https://bit.ly/3jojBHV
3. **^** https://bit.ly/2P4OseR
4. **^** https://www.safelymakingca.org/

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Exploring Patterns of Creative Engagement in Higher Education During the Covid-19 Pandemic Using the 5C Interpretive Framework

Norman Jackson

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4C Model of Creativity

As Hansika Kapoor and James Kaufman show in their article[1], the 4C model of creativity[2] provides a useful framework or cognitive tool within which general concepts and applications of creativity can be located. The framework helps to explain some of the complexity associated with the phenomenon of creativity. The value in the framework is to extend the ideas of everyday *personally meaningful* small-c creativity, and Big-C eminent *culturally meaningful* creativity to include "mini-c"—creativity that is inherent in the process of learning and the making of meaning, and "Pro-c" creativity—relating to the creativity of experts working in a particular professional domain where specialist knowledge and skill is needed to perform. Education comprises such a domain requiring knowledgeable and skilful practice to perform and this short article focuses on creativity in this particular domain drawing on the contributions to this magazine.

Jackson and Lassig[3] developed a visual aid (Figure 1) to map the social-cultural contexts and norms within which any creative act or project could be located, arguing that, "Creativity and culture are intertwined: the former uses the signs and tools made available by the latter to produce new cultural resources that go on to facilitate future creative acts." [9 p2]

Furthermore, "creativity is constituted to a great extent by the situation and domain in which it is expressed rather than any universal or innate bio-psychological principles." [9 p.2-3] An important part of this notion of creativity being constituted (or continually formed) is the recognition of something as an act or product of creativity by those who are able to appreciate its novelty and value. The contexts and norms framework (Figure 1) tries to show that creativity emerges from specific situations in specific cultural settings and its originality and value is judged by people who have developed a sense of the norms of the particular social-cultural context. I will use this framework to try to illuminate the way in which the pandemic has influenced the professional behaviours of teachers and educational developers or learning technologists as evidenced by the contributions to this issue of the magazine.

Figure 1 4C model of creativity displayed within a social cultural contexts and norms framework See text for explanations.
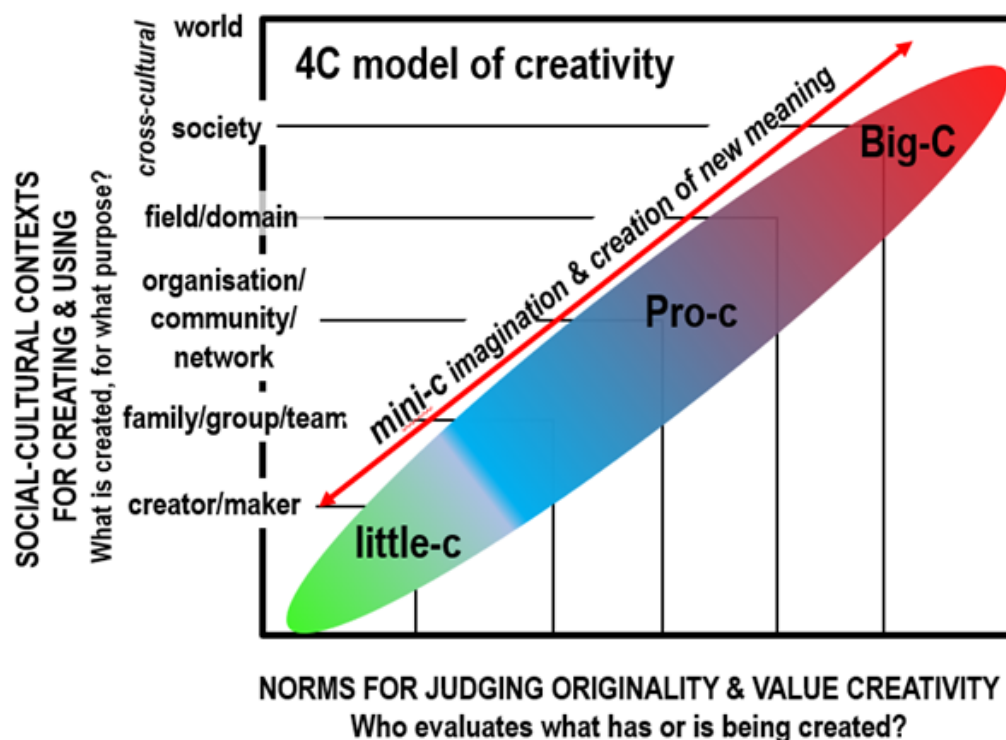
The 4C contexts & norms framework for interpreting creativity

My understanding of the 4C model[1] is that it seeks to develop a comprehensive and inclusive concept of creativity that can accommodate individual's creativity along and across the life span from the humblest to the most significant of scales and impacts. The model has four categories that relate to the manifestation of creativity but they are not uniform in character. Two of the categories might be viewed as meta-contexts within which particular contexts, situations and physical social-cultural environments are located.

1) *Personal everyday life situations and contexts (little-c) creativity can be present in any aspect of a person's life.* A person's everyday life is a meta-context containing many different domains of activity and experience that hold potential for imagination and creative action alongside and integrated with thoughts, actions and experiences that would not be considered creative. Little-c actions or outcomes are considered creative by people in the relevant everyday context. For example, a new dinner recipe could be deemed creative by family members.

2) *Professional/work situations and contexts (Pro-c) creativity can be present in and through aspects of individual's work..* The Pro-c meta-context contains a multitude of domains in which people practice and create. The word 'professional' might be a little misleading. More accurately this is a domain in which people have invested significant time and effort in developing themselves to the point where peers would consider them to be expert in their knowledge and skilful performance. Thus, it does not have to be a professional work context for example serious hobbyists may have invested as much time and committed practice as someone who earns a living from their own expertise. The well known 10,000 hour rule for creatives is a proxy for Pro-c.

3) *A third category of eminent creativity (Big-C) is not a meta-context, rather it is the recognition of exceptional achievements or performances that impact on culture in any context or domain where expertise is required.* The eminent accomplishments of great inventors in artistic, scientific, technological or political fields inhabit this domain. Artists like Picasso, musicians like Mozart, scientists like Darwin, engineers like Brunel, writers like Shakespeare and political leaders like Ghandi inhabit this category. Often the significance and value of an individual's accomplishments are only recognised after a considerable time has elapsed since their creativity was manifested. For example, it typically takes two to three decades before someone receives a Nobel Prize for their ground-breaking work.

4) *A fourth category (mini-c creativity) refers to the cognitive and emotional process of constructing personal knowledge within a particular sociocultural context in order to develop/change understanding.* Because it is a mental process it is associated with activities and experiences in the three other categories of creativity described in the framework, and in all stages of human development and activity, from the imaginings of a child that transforms his everyday world into a magical and mysterious world of giants and monsters, to the most sophisticated conceptual thinking necessary for breakthrough science. "mini-c creativity is not just for kids. Rather, it represents the initial, creative interpretations that all creators have and which later may manifest into recognizable (and in some instances, historically celebrated) creations" [1 p4] Mini-c is the domain of imagining possibilities and the making of new meaning through the activities and processes of creation.

Viewing creativity as a phenomenon involving unique people interacting in unique ways with their unique social-cultural contexts, situations and environments means that any frameworks within which creativity is considered need to acknowledge the contexts, and material and social-cultural world in which an individual's creative thinking and actions emerge. Evaluations of whether something is creative or not is undertaken by the creator themselves, against their own normative thinking and behaviours, and also by the recipients of what has been created or is being created – in the case of a performance, against their normative thinking and behaviour.

Creativity - a social-cultural and emergent phenomenon
One of the problems with creativity is that we often make assumptions about what it means and rarely explicitly explain what we believe to be creative when acting in a particular. At the most fundamental level I agree with Lev Vygotsky when he says, *"Any human act that gives rise to something new is referred to as a creative act, regardless of whether what is created is a physical object or some mental or emotional construct that lives within the person who created it and is known only to him."*[4 p7] But there are over 100 published definitions or propositions as to what creativity means and no universally accepted definition. The standard, widely used *psychological* definition of creativity used in psychological research[5], says that *originality* and *effectiveness* are the foundational ideas underpinning acts of creativity. But there are two ambiguities in the standard definition[6]. Firstly, the definition leaves open the choice of the context and norms against which to measure originality and effectiveness. Secondly, it does not discuss the possible role of a subjective judge(s)[3 p25] i.e. the person, persons or groups of people who evaluate and decide whether something is of value. In other words, the social/cultural environment within which people create is also the environment in which judgements are made about a creation. Creativity is a social construct and it is fairly meaningless without a social/cultural context.

It is also unhelpful to view creativity only as a result or product and to detach it from the social-cultural and situational context in which the act emerged. The American philosopher, educator and social critic John Dewey developed an interactional model of creativity through which creativity emerged as a result of humans interacting with their environment. He believed that action and creativity are brought together through human experience. *"When we experience something, we act upon it, we do something with it; then we suffer or undergo the consequences. We do something to the thing and then it does something to us in return."* [7 p46]

Carl Rogers framed the way creativity manifests itself as a phenomenon through his concept of a creative process *"the emergence in action of a novel relational product growing out of the uniqueness of the individual on the one hand, and the materials, events, people, or circumstances of [their] life"* [8- p350]. Like Dewey, he describes creativity as an ecological phenomenon - human beings having thoughts and feelings that are stimulated by their relationship and interactions with the material and socio-cultural world around them and these thoughts and feelings lead to actions and experiences in the world which they interpret and respond to in ways that cause new 'things' to emerge or happen.

The 5c model of creativity

The 5c model of creativity[3] builds on the 4c model and attempts to draw attention to the important role of education in the development of knowledge, skills, values, dispositions and talents for progressing into particular domains of expertise where creativity will be practised. Being creative in any field requires the development and mastery of domain specific knowledge, skills and values, combined with essential dispositions such as the will to inquire and persevere and ultimately, the will to try to think, perform and produce outside what is considered to be normative in the domain. For any field the Pro-c domain will be customised in the manner represented in Figure 2. Without this customisation the Pro-c conceptual space does not have meaning.
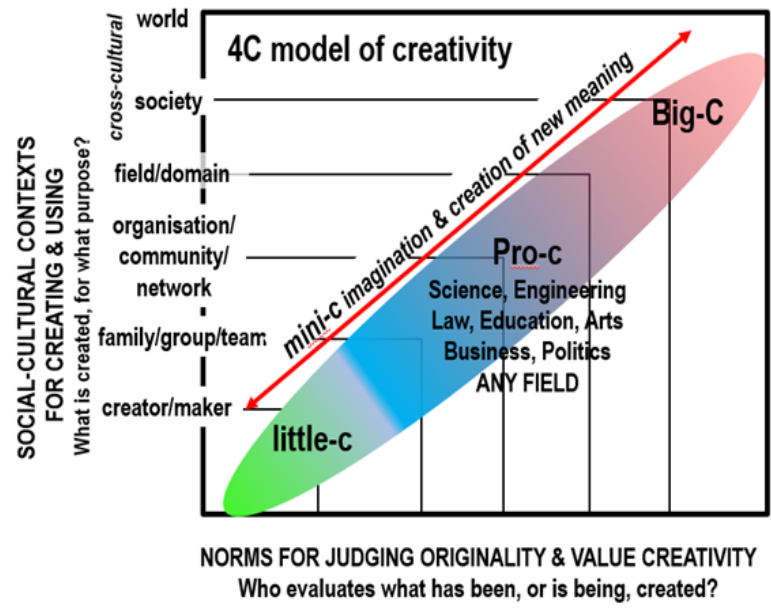
Figure 2 4C model of creativity displayed within a social-cultural contexts and norms framework[3] showing how the Pro-c field must be customised for the specific domain of expertise for it to have meaning.
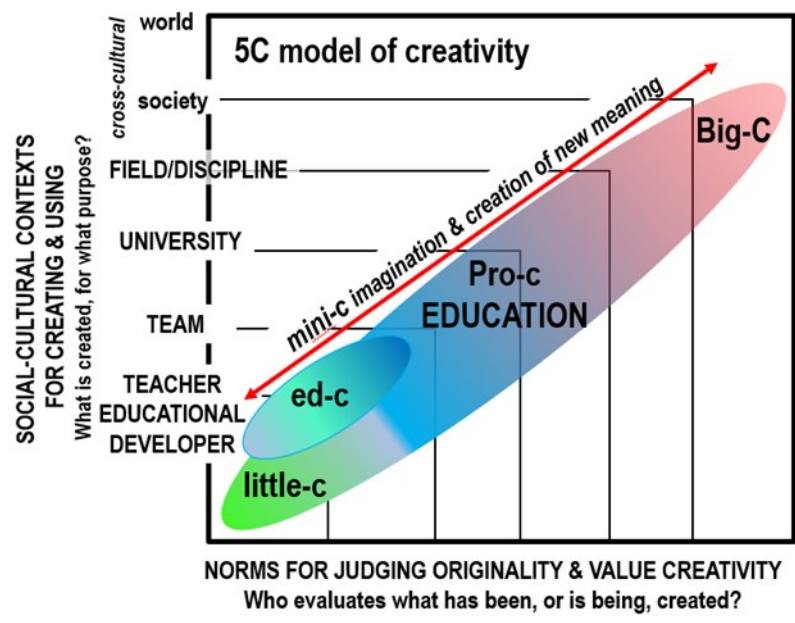
In order to become an engineer, lawyer, scientist, historian or practitioner in any other discipline, a novice has to serve an apprenticeship through which they 'undergo' and learn to think and act like the practitioner they want to become. In this way the novice develops their knowledge of what being a practitioner means, in the professions this process is undertaken within a higher educational environment. In order to come to know what being creative means in their disciplinary field, learners must be able to experience what being creativity means and learn what it means to add or create new value in a field. There are two elements to this process, firstly to learn the meaning of normative thinking and behaviour in the discipline, secondly they must understand and experience what it means to 'perceive and pursue novelty for learning or achievement' by trying to achieve this.[9,10]

Figure 3 The 5c model of creativity recognising the important role of higher education in preparing people for being creative in a particular Pro-c domain.

For many (but clearly not all) Pro-c domains, learning and performing in an educational environment is the necessary developmental experience required to ultimately perform creatively in the domain. This is the core argument for recognising another important domain for creativity in the social-cultural contextual and normative framework namely the educational domain (Figure 3).

The impact of the pandemic on education

The Covid-19 created a new trans-cultural global context. The pandemic has been the largest cause of global disruption to education systems in human history. According to some estimates[11] it has, to date, affected over 90% of the worlds student population (over 1.6 billion learners in more than 200 countries) and resulted in the temporary closure of schools, colleges and universities, and other communal learning spaces. Governments were forced to act to protect their populations and health systems, the normative behaviours for social interactions have been suspended as restrictions, including lockdowns, face coverings and social distancing to curb transmission of the disease, have been imposed. As Governments introduced restrictions on movements and social distancing, universities transitioned rapidly to distance, mainly online teaching and learning using a rapidly expanding range of tools. This required adjustment by both teachers and learners, many of whom were using these methods for the first time at scale, to adapt to new learning mediums. These unprecedented circumstances came into existence in a matter of months so there was no time for experimentation before adaptation – experimentation and adaptation were coincident. Necessity is truly the mother of invention and the pandemic certainly created new and urgent necessities, requiring teachers to use all their pedagogical resources including imagination and creativity to invent new practices to meet the needs of their learners and institutions. Schools and universities responded to the disruption caused by the pandemic with an unprecedented global effort in innovation in order to continue to operate and sustain educational opportunity in spite of the distancing requirements[12].

Patterns of creative engagement in higher education using the 5c interpretive framework

The stories of adaptation and innovation described in this issue of the magazine are selected from a larger collection of stories[13]. They reflect diverse approaches to tackling a range of pedagogical issues brought about by these new conditions. Most of these adaptations involved using technological aids to engage learners in activities through which they could either learn content, share ideas, experiences and practices, engage in peer to peer discussion, or reflect on and develop deeper understandings. We might model the general patterns of activity using the 5c contexts and norms diagram (Figure 4).

A-B or A–C pattern of creative engagement

Typically, a teacher encountering the challenge of continuing to teaching their courses, operating within an institutional culture that mandates the replacement of face to face teaching with online teaching and learning, is forced to consider the ways in which this might be achieved using her knowledge of the technological tools available, with or without the help and support of colleagues and learning technologists. They draw on their pedagogical and technical knowledge and by grappling directly with the problem engage their imaginations and creativity to bring entirely new designs and practices into existence. We might say that they are engaging in Pro-c activity (A in Figure 4). As they engage learners in what is a new social experiment, they continue to engage their creativity and improvise where necessary. Such online activities and interactions may facilitate learners' creativity as they engage with the educational process (see below for more detailed explanation). Alternatively, they may engage them in learning but not engage them in creative activity or outcomes.
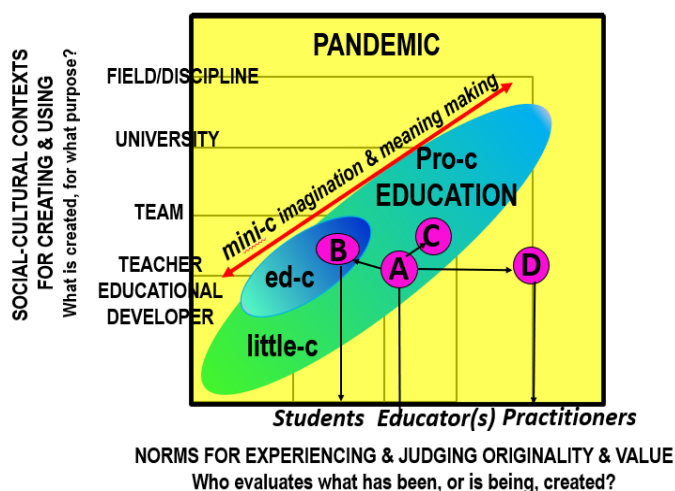
In a similar way, an educational developer or learning technologist may use their imagination and creativity to provide new affordance for their teaching colleagues in the form of new design tools or perhaps infrastructure in the manner Irving-Bell described in her article[14.] This can be modelled as an A-C relationship in the 5c contexts and norms framework.

Figure 4 Representation of the typical A-B pattern of creative engagement and outcomes in higher education teaching and learning during the pandemic – a new global cross-cultural context using the 5c contexts and norms diagram[3] The term Educator includes the role of teacher, educational developer and learning technologist.

Such practices in the Pro-c domain may not be recognised by anyone other than the teacher and students or colleagues who are directly affected. But if the teacher chooses to share their practice with other colleagues or peers outside the institution (e.g through a conference presentation or workshop in their institution, or an article in Creative Academic Magazine or perhaps through discussion in the #creativeHE community), their creative practices are brought to the attention of the wider community (D in Figure 4).

This simple A-B (or A-C pattern in the case of educational developers and learning technologists) must have been undertaken by most educational practitioners during the pandemic as higher education transformed itself from a largely social practice involving interactions where teachers and students were present in the same physical space at the same time, to social practice in which teachers and students inhabited the same virtual spaces sometimes synchronously but also asynchronously.

A/B pattern of creative engagement

There is another pedagogical pattern to be discerned using the 5c interpretive – an A/B pattern which is illustrated by Johanna Payton's contribution[15] and represented in Figure 5. In this pattern of interaction and emergence the teacher and learners are co-creators of ideas, practices and experiences as they engage with a field relevant problem. *"Inspired by Erdem's fashion show on the outskirts of Epping Forest, we came up with the idea of a sustainable fashion showcase in our own surroundings. The showcase would be shared in the form of a video, supported by a documentary with sustainable designers and influencers, to highlight the climate change challenges the industry faces."* The article describes both the process and products of creation and their effects on the world. It provides an excellent example of learners who were developing themselves to become fashion journalists, being encouraged by the teacher to think and act as professional journalists would think act. In this way they were experiencing what being creativity means and learning what it means to add or create new value in their intended professional field. This is an excellent illustration of the interplay between Pro-c pedagogical skill and creativity of the teacher and the creation of an ed-c educational environment in which creative enterprise relevant to the professional field could be nurtured.

Figure 5 Representation of a co-creational pattern of creative engagement (teacher + students or A/B) and outcomes in higher education teaching and learning during the pandemic using the 5c contexts and norms diagram[3] The term 'educator' includes the role of teacher, educational developer and learning technologist.
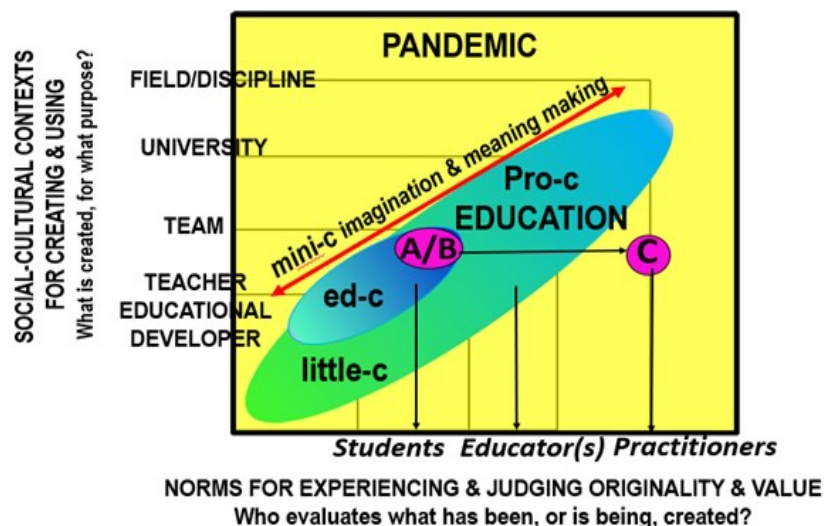
We might usefully extend this conceptualisation of creative engagement within the ed-c environment through Carly Lassig's grounded theory of adolescent's creativity[9]. Her research revealed that within educational contexts (and beyond), students were manifesting three orientations towards creativity – which she defines as the conscious pursuit of novelty: creative personal expression, creative boundary pushing, and creative task achievement (Figure 6).
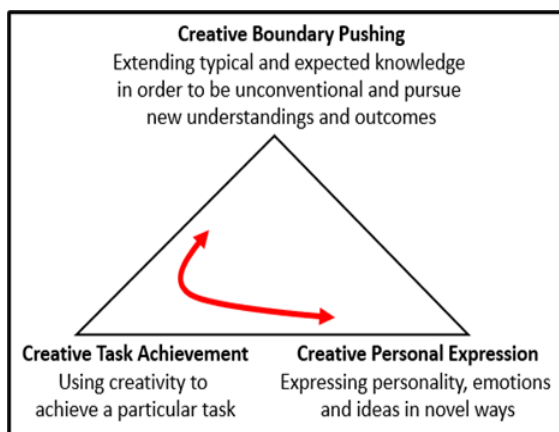
Figure 6 Conceptual spaces for creative orientations for adolescents[9]

Creative task achievement refers to students using creativity to achieve a particular task or external demand. This is the commonest orientation in educational settings where students' learning is extrinsically motivated by learning tasks and assessments. *Creative personal expression* involved students expressing their personality, emotions and ideas in novel ways. *Creative boundary pushing* involved students extending the limits of typical and expected knowledge in order to be unconventional and pursue new understandings and outcomes. We might speculate that different pedagogical process can be created to encourage activities and experiences that will nurture one or more of these orientations.

Although the Relentless experience formed around a task or challenge and therefore encouraged a task-oriented approach to creativity, the manner of experiential engagement is also likely to have encouraged creative self-expression as well as encouraging some of those involved to extend themselves and their knowledge and understandings well beyond their known experience. Such a combination of orientations is illustrated in Figure 6. I invited Johanna Payton (the teacher who designed and facilitated the Relentless project) to comment on these speculations and she confirmed that all three orientations featured in the project.

I think Carly Lassig's 'conceptual spaces for creative orientations' is an excellent way of framing how we were working with Relentless. I feel we were in the centre of the pyramid, moving in a constant circle - in all directions - between these three fields: Relentless was a project outside the curriculum, so it was fuelled all the way through by creative personal expression (for example, I asked the students - 'what aesthetic would you want to create for a remote/digital, sustainable fashion show?' and they brainstormed together, and individually, to propose the idea of gender neutral style) and creative boundary pushing, because they were aware not only that this project was a brand new innovation (from the university/course's point of view), but that we were working under exceptional circumstances due to the pandemic. Through using creative personal

expression to 'storyboard' the fashion show - and the supporting documentary - and pushing the creative boundaries of what we could achieve given the challenges we faced, we were constantly operating within the field of creative task achievement: every task we identified needed a creative solution due to the challenges of the pandemic - for example, how could we collect samples of clothing from sustainable designers during a lockdown (answer: walking and biking across the City of London to collect in person from their offices!), not being able to travel very far from our homes to shoot the footage (answer: exploring the areas surrounding our homes to find woodland locations that would create the illusion of one big, magical forest to host our digital catwalk), and creating a documentary without being able to meet the subjects in person (harnessing Zoom as a tool for filmmaking).

For us, these conceptual spaces were fluid, but we were very conscious of them. We knew we had to push creative boundaries to make the project happen; we knew we would need to apply personal creative expression to come up with our narrative, make the film and promote it; and we knew that we would need to use creative thinking to achieve most tasks because we were operating outside the 'usual' framework of a fashion project, not only due to the pandemic, but also because this was the first fashion show any of the students had worked on, so every task was novel for them and demanded their own creative solution, as well as tapping into my knowledge. During the process we constantly discussed the way we were working, what we were learning, and how our personal and collaborative creativity was making our project possible. I think this awareness feeds into Pro-c activity because these students are now in the working world, and they are taking the knowledge, experience, and creative confidence they gained through the Relentless project into their careers to share with colleagues/clients, etc. **Johanna Payton 19/01/22**

A & A-C pattern of creative engagement

Pip McDonald's poetic contribution "I'm a Learning Technologist. Get Me Out of Here. A Techno-autoethnographic Poem"[16] provides an illustration of another pattern of creative engagement that can be identified through the 5c interpretive framework. This pattern combines and integrates her inner desire to be creative in a little-c sense using her preferred medium of poetry with her professional world as learning technologist (Figure 7).

Figure 7 Representation of a creative self-expression pattern of creative engagement using the 5c contexts and norms diagram[3]. In the example the teacher combines her little-c passion for writing poetry with her professional role as a learning technologist to create a techno-autoethnographic poem. The term Educator includes the roles of teacher, educational developer and learning technologist.
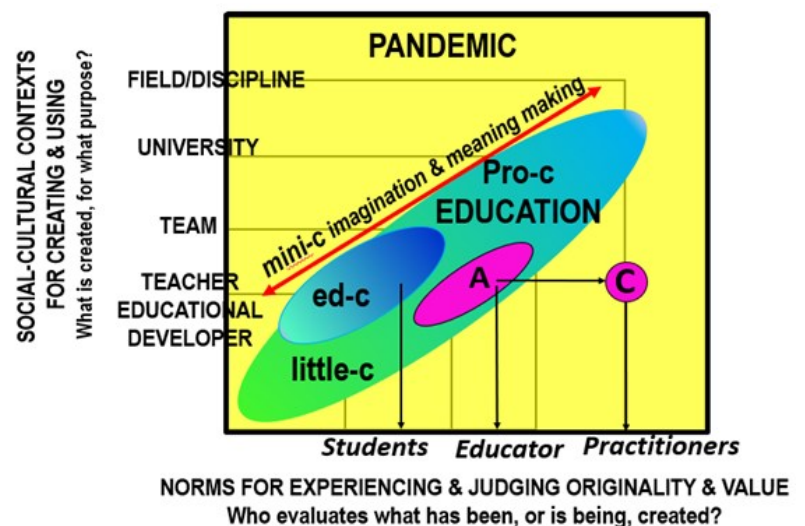
As Pip explains in the tailpiece to her article[16].

"I have been re-writing famous poems with technology twist for fun and performing them an open mic poetry/spoken word events in London, such as John Clare's 'I Am!' to 'I Am (Online!)' and Dylan Thomas' 'Do Not Go Gentle Into That Good Night' into 'Do Not Go (Digital) Into That Good Night'. One of the fun ones to reimagine was Shakespeare's Sonnet 18 into a Digital Sonnet 18 which was published in the JoyFE 17 magazine here. Perhaps it is a form of playfulness. From monologue to technologue?

Whilst technology is clearly a dominant theme and will continue to be, I do write other poems/spoken word including at storytelling events including one in Bletchley, online at Zoom events and in London. I have also just written a poem for the British Bilingual Poetry Collective (BBPC) as a Guest Poet entitled 'A World Without Language' to be performed at the end of January in East London."[16 p39]

In her account of herself. Pip illustrates well the fact that creativity does not grow out of nothing: every act of creativity is underpinned by a history of experiences in which the individual has tried to be creative. John Dewey recognised this when he talks about experience *"He does not mean by this the stored up product of the past; nor does he mean simply the immediacy of the experienced present; nor the mere acceptance of environmental impact by a passive recipient; nor does he contrast experience with thought or reason. Experience is continuous from past through present to future; it is not static but dynamic, moving, in process."* [17 p13] Dewey says that when we try to achieve something through the process of interacting with our environment in order to achieve, we undergo. When we are creative in the Pro-c domain we have undergone a lot! Pip's many

experiences of playing with words to create poetry throughout her life means that she has undergone and it is this undergoing that enables her to be creative in the medium of poetry when she applies it to her professional life.

Conclusion

We are all participants in a world in formation but It's not often that people all over the world share a context. The Covid 19 pandemic provided a rare example (along with global warming and all the other wicked challenges relating to a sustainable future for the planet and mankind), and it revealed the fragility of our human constructed world. It caused profound disturbance to social behaviour, catastrophic disruption to the global economy and the loss of jobs and businesses on a scale we have never witnessed before. Because of social restrictions it had a massive impact on institution-based education all over the world. But we were not simply bystanders watching this formational process: educators responded to the new reality by engaging with the technological tools at their disposal and, where possible, moved the education they were providing online. For many educators this was their first attempt to create an online environment for learning and we can only imagine the rapid and steep learning curves it must have required. Some educators recognised the possibilities in these new forms of education for their own creative engagement in the ways they utilised the technological tools to facilitate students' learning. Some educators went further and created experiences both on and offline that encouraged learners to draw on their own imaginations and creativity in their learning process.

This short contribution tried to draw attention to the different patterns of creative engagement in Higher Education and using the 5c contexts and norms conceptual framework it tried to create new meaning drawing on some of the contributions to this magazine. The conceptual analysis suggests that the key patterns of creative engagement in higher education are:

A or A-C Educator creates purely for themselves – acts of creative self-expression and perhaps to share with other colleagues (A-C) who will appreciate their creativity

A - B Educator (teacher, educational developer or learning technologist) creates and facilitates new designs – students learn without explicitly engaging their creativity

A/B Educator and students co-create ideas, process and experiences and outcomes

B Students spontaneously create for themselves without the intervention of an educator (not illustrated in this magazine).

Implicit in the conceptual analysis is the argument that for many Pro-c domains, learning and performing in an educational environment is the necessary developmental experience required to ultimately perform creatively in the domain. As someone who studied geology at university, I know this to be the case. First, I studied and learnt about the subject, developing factual and conceptual knowledge and through a range of laboratory and field experiences learning what it was to be a geologist solving geological problems. Only when I had a good grasp of these could I progress to engaging creatively with my subject and my challenges and move from the educational domain of geology to the professional domain of performing as a geologist.

This is the core argument for recognising the ed-c domain for creativity in the social-cultural contextual and normative framework.

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Forthcoming events

Exploring Sustainability, Creativity & Wellbeing

The next issue of Creative Academic Magazine is planned for May/June 2022. It will explore the relationships and connections between creativity sustainability and wellbeing. We are combining forces with Lifewide Education to explore this theme through open discussion/inquiry. If you would like to contribute an article or join our discussion please let me know normanjjackson@btinternet.com or visit our open access discussion forums

Creative Academic on Linked in https://www.linkedin.com/groups/8755256/

#creativeHE on Facebook https://www.facebook.com/groups/creativeHE

World Creativity & Innovation Week April 18-22 2022

Our contribution to World Creativity and Innovation Week will be to collaborate with #creativeHE to support an Open Mic event to Celebrate Creative Self-Expression. The event will be led by poetic learning technologist Pip MacDonald. We extend an open invitation to you and if you would like to contribute a poem, story, song, animation, dance or any other artistic creative performance please contact Pip.McDonald@rau.ac.uk

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