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Preface and confidence themes

This is the second symposium that the Games in Learning (SIG) has organised. The COVID-19 global pandemic has forced Higher Education to pivot from a predominately face-to-face pedagogy to a blended or pure online delivered pedagogy. Academics and students have faced challenges with a problematic and dynamic situations.

The use of Teams, Zoom and platforms like H5P, google jamboards and Padlet etc, has forced academics and students out of their comfort zones. The purpose of this symposium is to provide colleagues and students the opportunity to share their experiences of either using a game or designing one.

Symposium Themes and Topics

The symposium seeks submissions from academics and students to share their experiences of using games or gamification in supporting learning.

Topics of interest include, but are not limited to, the following:

- Adaptation of existing classroom game-based learning to an online environment;
- Making online sessions more engaging through games and gamification;
- Development and trialling of game-based learning approaches to teaching;
- Use of game-based activities for specialised teaching support.

Catastrophic: a card game to support systems thinking in biology

Dr Pen Holland, University of York

Catastrophic is a joyful card game designed to help players make connections across large spatial and temporal scales in biology. Plant and animal trait cards (e.g., thick waxy cuticles or evaporative heat loss) make up species that sit in catas-trophic levels in a community. An avalanche of catastrophic events such as global warming, drought and habitat fragmentation change environmental conditions, with species' traits delivering protection (or not) against extinction, while interaction cards strengthen or weaken the community according to biological mechanisms and players' cunning plans.

I will describe the development and evolution of Catastrophic as a staff-student partnership between biology, education and interactive media academics and undergraduates, and explain the rules of the game, highlighting how the learning is reinforced through the game mechanics rather than just information on the cards. I will then talk about changes in teaching practice and student learning and engagement in the Biology programme at the University of York as a result of embedding the game into a first-year module, with preliminary results on our evaluation of uptake, engagement and learning gains for bioscience undergraduates. Finally, I will discuss the challenges of adapting Catastrophic for online teaching and learning in a pandemic.

For more information on the game, and to test out the online version, see www.catastrophic.york.ac.uk

Games Jam for Sustainability

Katalin Butt-Bethlendy and Eve Riley, NTU

In March 2021, NTU Green Academy and Confetti organised a 36-hr 'games jam' for sustainability. 6 groups of 6 students (from Confetti, AAD, ADBE and ARES) worked around the clock to research information for and create a game or app that helps students understand sustainability and take relevant actions. The working prototypes addressing the themes of sustainable Clothing, Energy, or Food were presented at the end of the event to a panel of specialist judges to win an award. As a result of their active participation, all students could gain the Sustainability in Practice (SiP) certificate to be added to their HEAR.

(In addition, Confetti students could also use the experience as part of their industry-based sustainability portfolio - see Paul Wallis presentation).

This fast-paced online event served as a pilot for a long-term, multidisciplinary, collaborative game-based project for innovation in teaching and learning. Commissioned by the Vice Chancellor, endorsed by Interim PVC Education Jane McNeil, and coordinated by a dedicated Project Officer, Eve Riley, this project aims to bring together students from different disciplines to jointly identify and create practical solutions needed for dealing with complex contemporary issues, and help create a more sustainable world for all.

During our talk, we will summarise the theoretical background used to plan this game-based learning project, and share insights gained from the evaluation process, supported by CADQ. We will also provide our top tips for hosting such events to help you apply a similar approach in the future.

Developing gamified teaching resources & practices to engage learners with sustainability in flexible/blended and online learning environments

Paul Wallis, NTU

The presentation will look at the adaptation of existing classroom learning resources to be more engaging for learners studying Sustainability and Media Production subject matter whilst collaborating and engaging remotely through an online (PebblePad) Virtual Learning Environment. (VLE).

The Key practices that will be presented are the use of scripted PowerPoint presentations allowing the students to have a tangible interface and feedback when selecting answers to questions about the Carbon Footprint of products in a higher lower play your cards right scenario.

Further use of PowerPoint will show how prepared PowerPoint Presentations can be adapted into an interactive activity where students rearrange the slides into a narrative storyboard that tells the story of society's journey towards climate change disaster or redemption. Through undertaking the activity, learners map key societal milestones that illustrate positive solutions or negative behaviours, thus inciting the direction that the story takes. The process also suggests a timeline illustrating how soon events might be seen in society should action be taken or ignored.

The practice of using PowerPoint in this way has further scope for engagement and distribution of evidence, as learners can independently or collaboratively record a Voice Over into the Presentation to further re-enforce understanding of their choices and communicate what they have learnt. This can also be saved and presented as a video "essay" using the Export Features of PowerPoint.

There is a final resource that can also be covered in the presentation that demonstrates how Self Marking Multi Choice Quizzes can be built and delivered through Microsoft Excel and programmed to give automated feedback.

CoLab - PUSH IT

Tim Rundle and Georgia Burns, NTU

As a key part of the School of Art & Design Collaboration agenda, "CoLab" was set as a structured sequence of curriculum changes to embed collaborative practice across all levels of the school community. This paper is based on the launch of CoLab 2020 /2021 and its introduction at Level4. It outlines an example of curriculum innovation that involved two days of inventive game-based learning called PUSH IT.

The PUSH IT activity involved 1400 students and over 100 academic, technical and admin staff, coming together to work on a single project. Its aims were to investigate how game-based learning could be adapted and advanced to meet a new set of parameters and objectives:

- Uniting and engaging a full cohort & community under one playful and provocative investigation – By using inventive multimedia communication tactics and Branded project promotion tools.
- Placing collaboration, risk-taking and play at the heart of the learning experience – By creating interactive materials that facilitate and encourage inclusive participation debate and contribution.
- Demonstrating the value of collaboration and creative disruption through example – By building a "Call and response", baton passing sequence of creative collaborative stages that ran from Sept 2020 to March 2021.
- Trialling the innovative design of hybrid teaching tools, responding to the current Covid Educational Landscape – By blending print and editorial design, digital and web design with Film and animation design.
- Establish cross departmental collaboration and shared project experiences as the norm – By providing a unique learning format that shapes new ideas, in new spaces with new people.
- Investigating the how community, shared experience and project design can address issues around wellbeing, isolation and siloed learning – By designing a set of project components that create a greater sense of personal connection and physical interaction.

By sharing the scope of ambition, innovation of design and the evidence of impact and consequence, this paper will outline how the PUSH IT initiative can provide an inspiring case study for the next generation of game-based learning experiences at HE.

Brave New World-A Case Study in Taking A Boardgame Resource Into New Territory

Professor Tom Lewis, NTU

Having developed a boardgame to enable players both inside and outside of a university setting to explore questions around human rights and Constitutions, its creators sought to find ways of: 1) Providing the game with an income stream to make it self-sustaining; 2) Taking the resource to new audiences in tertiary and secondary education, as well as the general public. A significant step in relation to both points was gaining some external funding to address these objectives. This paper discusses some of the practical challenges faced in this process, how they have been addressed so far and the current plans for the future.

Translating a Boardgame based learning experience Into A Digital Resource

Dr Javier Garcia Oliva and Dr Helen Hall, NTU

Having developed a boardgame and gained external funding for its dissemination and commercialization, the designers found themselves faced with the pandemic context, and the practical challenges of promoting a boardgame in a situation where possibilities face to face meetings and interactions had become drastically limited. In addition to pursuing avenues for taking the boardgame forward in the medium term, the design team opted to work on translating their resource into the digital realm. However, after experimenting with platforms like Table Top Simulator, it became clear that some key elements of the learning experience provided by the boardgame could not easily be replicated via playing the game virtually. Therefore, the team opted to isolate some of the key mechanisms for learning and reflection, and incorporate them into a different sort of game (a narrative based, full motion video game) which could successfully be played online.

This presentation explores: 1) Which elements of the interaction and learning experience provided by a physical boardgame were absent or attenuated in digital play; 2) How and why these were more readily translated into a narrative based FMV game.

'Sweetie game'

Dr Simon Cauvain, NTU

The presentation will offer description and reflection on the use of a 'Sweetie Game' in teaching of anti-oppressive social work practice, where focus is given to developing skills in empathy, power and self-reflection. Reflections will include the associated transition from in-person delivery to an online version and the learning experience from the student perspective. COVID-19 restrictions have created an opportunity to reframe what was a physical, tactile and interactive learning experience to one of the virtual. What had seemed initially impossible to imagine working effectively in an online environment was surprisingly transferrable and indeed enjoyable to teach. Whilst pedagogically challenging, student feedback, through electronic survey, closely resembled those taught in-person. Reflections on delivery reinforced the need to support students' appreciation and understanding of safe learning environments and need to agree ground rules.

Concepts of ethics, values, equality and diversity each play a fundamental role within social work education. Students often join social science courses with wide-ranging experiences and understanding of these concepts; for some they can feel abstract and fragmented; for others, familiar and personal. Teaching around the subject of working with people must therefore embrace a range of pedagogical approaches so they can resonate with individuals and groups.

The purposeful and provocative introduction of the activity in the form of a 'sweetie game' frequently raises eyebrows and wry smiles within the cohort. Students might understandably believe they will be in for an easy ride; it is 'only a game after all'. Once the game begins, however, emotions often appear to be aroused especially upon realisation of one's own (often deep-rooted) personal prejudices. The associated psychological arousal is aimed to inspire deep-learning and the exploration of the realms of equality, invisibility of privilege and social justice.

Embedding Employability using branching scenarios in H5P

Jonny Greatrex and Rosemary Pearce, NTU

This session outlines the ongoing collaborative project which aims to develop students' skill in judging, filtering, and selecting salient data in a spreadsheet for the use in journalistic publication. Jonny decided on a "gamified" approach in his educational design of this topic, having seen an excellent example of a broadcast journalism game created by the BBC with Aardman that allowed students to apply their knowledge in a realistic employment context. It combined video, image, and text content with questions that drive a narrative and provide students a "choose your own adventure" experience.

Jonny consulted the School's Learning and Teaching Support Unit (LTSU) to explore the possibilities of an open source software called H5P to develop a similar interactive "branching scenario" game quickly and without prior experience of game development. The finished game has been successfully trialled in a classroom setting as a supervised self-assessment tool, but there is scope for further development and use in formative asynchronous assessment, especially now that H5P has been integrated into NOW and students' progress can be recorded and reviewed. The session will give a glimpse of how the game works, discuss the challenges experienced in developing it, and explore how games of this type might enhance blended and online learning.

"House of Cards" – lean production in construction

Dr Ehsan Asnaashari, NTU

The "House of Cards" simulation was developed to stimulate discussion and improve the application of lean production concepts (5S, waste, kaizen, and collaboration) to construction project management.

It is a simple, scalable, hands-on exercise that enables a facilitator to lead teams to intuitively grasp lean concepts and their benefits to construction processes.

The resources required were 4 players, a deck of playing cards, a timer, and a playing surface. However, after lockdown, as we could not have face to face seminars with students there was a need to convert this game to an online version.

The idea was to keep it simple and recreate the game in a familiar environment without the need for creating a new account or subscription. So, I redesigned the House of Cards using PowerPoint and Google Slide. After converting the game into an online version, I have evaluated the game in three rounds:

1. In the first round, I presented the game in Administering and Playing Lean Simulations Online (APLSO) during the first lockdown using Zoom. APLSO is an international group of lean instructors and experts that is created to create and play lean simulations online.
2. The second round of evaluation was carried out with a group of volunteers on Google Meet.
3. In the third and final round, I played the game with MSc students at NTU using MS Teams.

In all rounds comments and feedback were collected and modifications were implemented to improve the game. For example, to make it compatible with 1-hour seminars at NTU some rounds were merged or eliminated for the game to be feasible to play within the time slot.

I would like to talk about the process of online conversions and the challenges I faced through playing this game online.