

GEM

We connect &
learn together

Case Studies

Hybrid Learning

Vol.30 2023



Editorial

Welcome to the latest edition of GEM Case Studies featuring impressive examples of hybrid learning in museums, galleries and heritage sites across the UK.

This publication builds on the guidance which the Clore Duffield Foundation has produced focusing on hybrid and blended learning, delivered in partnership with GEM & Engage (spaceforlearning.org.uk/hybrid-learning). Please start exploring the publication with the Editorial by Sam Cairns introducing hybrid learning and discussing its benefits for museums.

The Covid-19 pandemic triggered a major digital transformation within the museum learning sector. Museums had to find new resilient solutions to develop relationships with existing audiences and continue delivering their learning offer. **The Fitzwilliam Museum** designed hybrid teacher training to support the formal education community during a significant time of change. The Box built long-lasting connections with a local LGBTQ+ community by engaging them in creative participatory projects. **The Jorvik Viking Centre** piloted a successful hybrid programme enabling tangible experiences for schools learning remotely.

The Peace Museum created online resources and physical learning packs for teachers and families to support home-based learning.

The lessons of the pandemic encouraged museums to enhance their hybrid offer to tackle barriers to their collections and onsite programmes. Using 3D replicas of objects from the museum's collection, the **V&A** launched a fantastic outreach programme for children in hospitals. **The Roald Dahl Museum, National Museums Liverpool** and **National Museums Northern Ireland** developed bespoke learning opportunities for remote schools, enabling engaging learning for all.

Digital skills are essential in today's world. Museums seized the opportunity to use their learning programmes to increase digital literacy and content creation using projects and events to upskill their target groups. **Museum of London Archaeology** ran a hybrid community programme supporting the creation of digital content inspired by incredible archaeological discoveries found during a development-led dig. **Museum of Northumberland** and **National Railway Museum** organised large scale interactive events inspiring young people to consider STEM careers and increasing their engagement with STEM subjects.

Hybrid learning is an effective, but complex way of engaging diverse audiences. It requires a lot of creativity, resources and thinking around what makes a good virtual

experience and how to make it work. For example, the **Enfield Archaeological Society** uses digital technologies to expand and enrich the in-person learning. **Leeds Museums and Galleries** tested a wide range of hybrid activities and came up with an open question:

Can we give parity of experience in a hybrid setting?

We invite you to read this publication and find your own answers, as well as get inspired by a wealth of insights and ideas shared by the museum learning practitioners from the GEM community.

Katya Provornaya
Case Studies Editor

GEM Communications and
Participation Manager

Introduction

Blended Learning: benefits, pedagogy and practice

We know from existing research that there are benefits for learners to blended learning you do not get with single modes learning. The Education Endowment Foundation (EEF) has published reports (Stringer et al., 2021) on the different ways to use digital technology to improve learning. Meta-analysis of evidence has found the “*advantage over face-to-face classes was significant in those studies contrasting blended learning with traditional face-to-face instruction but not in those studies contrasting purely online with face-to-face conditions*” (Means et al., 2013, p. 2).

While the evidence suggests there are benefits to using online delivery as part of a programme, I think we still need more research about the impact of a move from in person to online. We know from research about how babies learn (Lytle et al., 2018) that in person interactions are needed for them to learn new language, they do not learn through a screen. Does a limitation in how we are learning online carry on in childhood or to adult learning? What does it mean about how we should do things differently online?

What is clear, in the words of the EEF, is “*that to improve learning, technology must be used in a way that is informed by effective pedagogy*”. Why are you using a particular approach for a topic and age group? What will make the implementation of your approach effective? The case studies in this publication seek to help you with answering these questions in a museum context and there is much to be learnt from research conducted to help teachers

in schools. The Education Endowment Foundation’s resources are a good starting point.

The Clore Duffield Foundation Space for Learning Hybrid Learning resources can also help inform your practice. The Foundation funded free online Space for Learning Hybrid Learning Guidance workshops in summer 2022 in response to needs identified by museum and gallery learning colleagues. Films from the workshops and meeting notes are available on the Space for Learning website: spaceforlearning.org.uk/hybrid-learning and as part of the work we developed a definition:

Definition of blended and hybrid learning

Blended cultural learning and participation programmes consist of both in person and online opportunities. Online learning can be delivered in real time or made accessible for use at different times. Hybrid learning simultaneously integrates online and in person elements.

What struck me over the 2022 workshops was the increasing level of confidence of museum learning colleagues had in delivering blended learning and mastering the wide range of online tools needed, including Teams, Zoom and Google classroom. There is now a considerable amount of expertise in the sector and many colleagues across GEM who can support and advise when you are putting together your blended learning programmes.

The Clore Duffield workshops also made clear some of the benefits of blended learning for museums. Colleagues report that schools are more likely to engage in pre and post visit learning with an online visit.

For museums that lack space to host school groups online workshops offer a solution with just a screen, desk and camera for objects needed.

It is clear from teacher expectations that blended learning and delivering to schools via an online platform is not going away. Teachers continue to report the biggest barriers to visiting museums are the cost of transport and time needed to organise a visit (Cairns & Kaye, 2022). Online delivery offers a solution that teachers have become comfortable with.

Blended delivery can offer advantages to the space poor museum seeking to widen their audiences, but we need to understand more about its benefits and limitations for learning and how it fits with our practice and pedagogy.

Sam Cairns

Space for Learning Project Manager and Director at Sam Cairns Associates

References

- Cairns, S., & Kaye, S. (2022). Teacher insights for museums 2021-22. Art Fund.
- Education Endowment Foundation (2020). Remote Learning, Rapid Evidence Assessment. London: Education Endowment Foundation.
- Ennes, Megan, Lee, & Imani N. (2021). Distance Learning in Museums: A Review of the Literature. *International Review of Research in Open and Distributed Learning*, 22(3), 162-187.
- Lytle, S. R., Garcia-Sierra, A., & Kuhl, P. K. (2018). Two are better than one: Infant language learning from video improves in the presence of peers. *Proceedings of the National Academy of Sciences*, 115(40), 9859-9866. <https://doi.org/doi:10.1073/pnas.1611621115>
- Means, B., Toyama, Y., Murphy, R., & Baki, M. (2013). The Effectiveness of Online and Blended Learning: A Meta-Analysis of the Empirical Literature. *Teachers College Record*, 115(3), 1-47. <https://doi.org/10.1177/016146811311500307>
- Stringer, E., Lewin, C., & Coleman, R. (2021). Using Digital Technology to Improve Learning Guidance Report. London: Education Endowment Foundation.

Contents



02 Editorial

Katya Provornaya

Case Studies Editor,
GEM Communications and
Participation Manager

03 Introduction

Sam Cairns

06 Developing a Hybrid Community of Practice Through Skill Sharing and Fun in Partnership with Local Schools and Teachers

Rosanna Evans, Kate Noble

The Fitzwilliam Museum,
University of Cambridge Museums

08 Culture Club: Engaging LGBTQ+ Community in Conversations around Equality, Diversity and Representation

Tony Davey

The Box, Plymouth



18



22



30



20



26

10 Loan Boxes Live!
Erin Tattersall, Rachel Bishop
 The JORVIK Viking Centre,
 York Archaeological Trust

12 Learning for Peace:
How to Run a Learning
Programme with No
Physical Museum Space
Shannen Johnson, Jude Wright
 The Peace Museum

14 Museum in Your Room:
Using 3D Printed Replicas for
Object-based Hybrid Learning
in Hospital Schools by the V&A
Marc Barto, Elizabeth Galvin,
Faunsia Tucker
 V&A South Kensington

16 Learning the Lesson:
Reaching New Audiences
through Livestream Learning
Charlotte Hollis,
Natalie Wallace
 The Roald Dahl Museum
 and Story Centre

18 Ancient Egypt:
Marvellous Mummification
Claire Benjamin
 National Museums Liverpool

20 Museum on the Move:
Reaching Remote Schools
in Northern Ireland
Louise Rice
 National Museums
 Northern Ireland

22 Liberty of Southwark
Community Digital Producers
Shantol Campbell,
Katrina Foxtan
 Museum of London Archaeology

24 Our Past Your Future:
Interactive Digital Workshops
to Engage Primary School
Pupils in STEM
Elizabeth Ferguson,
Joe Shimwell, Zoe Chesher
 Museums Northumberland,
 NUSTEM Northumbria University

26 A Journey of Hybrid
Engagement and
Partnership Potential:
Showcasing Innovation,
Engineering and Technology
through Railway Futures
Chris Snowden-Smith,
Heather Lysiak
 Trans-Pennine STEM
 Ambassador Hub and
 National Railway Museum

28 Virtual Excavation:
Embedding the Excitement of
an Archaeological Dig into a
Blended Schools Programme
Francesca Chinnery
 Stories of Enfield: The Enfield
 Archaeological Society

30 Can You Give Parity of
Experience in a Hybrid Setting?
Kate Fellows
 Leeds Museums and Galleries

Developing a Hybrid Community of Practice Through Skill Sharing and Fun in Partnership with Local Schools and Teachers

Summary

This case study shares our learning of developing a community of practice through our teacher training programme. A flexible hybrid approach enabled us to collaborate both online and onsite to provide training and support.

Background

The Fitzwilliam Museum is the lead partner museum in the University of Cambridge Museums and holds over half a million works of art, masterpiece paintings and historical artefacts in its collections. When the museum closed due to the pandemic in 2020, our local teachers were more engaged than ever, and we had recorded a 44% increase in training bookings between 2017 and 2019.

Challenge

- To sustain an engaged teacher community and provide opportunities for professional learning, skill sharing, friendly connections and kind support;
- To design a programme that enables teachers to engage at different depths and in different ways: from workshops, events and resources to more strategic collaborative projects.

Approach

- A commitment to creating a supportive professional learning environment for teachers to create, relax, connect and share;

- Underpinned by *Lave and Wenger's* communities of practice where groups of people with a shared passion or interest in something they do learn to do it better by getting together regularly;
- We engage in iterative cycles of action research of planning, development, activity, analysis and reflection through our learning programming.

Intended outcomes

- To sustain relationships with local teachers, sharing ideas, building trust and increasing connection;
- To collect feedback on the development of new digital resources;
- To support teachers to utilise museum opportunities and objects in their practice.

Intended outputs

- A routine and accessible programme of teacher events, resources and workshops.

Obstacles and issues

- Pressures on staff time, funding, and the ever-changing situation throughout the pandemic;
- Sometimes events fail to book up even if created in response to teacher feedback! This is often more a reflection of the pressures teachers are under rather than anything you have done or not done.

Actual outcomes

- Teachers are confident to access museum staff and resources.
- Our online community provided vital support and comfort at a difficult time and teachers came to our sessions to socialise and relax as well as to learn, *"Thank you! It was actually just great to be able to feel both relaxed and absorbed in these CPD sessions, the tone of the workshops was just what I needed after a long day/week/half term. Gentle and inspiring"* (teacher's feedback).
- An offer of live and pre-recorded content meant that teachers were able to share their learning with other colleagues as this feedback demonstrates, *"A real inspiration as we managed to get a member of staff to every session and have shared all of the resources across the school, we are now trying to embed the sessions into our schemes of work"*.
- The hybrid format enabled collaboration with artists and other museums and galleries.
- Stronger internal advocacy for teacher audiences enabled us to host our first special evening opening for teachers in Summer 2022.
- An increase in on-site and online engagement led to further growth in bookings numbers: we recruited 90 collaborators for our lockdown teacher panel and our evening



“ The hybrid format enabled collaboration with artists and other museums and galleries.

Next steps

We are continuing to develop our hybrid schools and teacher offer. We are also developing a new project with the senior leadership team of a local Multi Academy Trust exploring how to support cultural connections and oracy through museum visits and objects. This two-year project will enable us to develop further training resources and to measure the impact on teacher knowledge, skills and confidence over time.

Build more partnerships with Special Educational Needs professionals, local and national schools, charities, and organizations that service the SEND/PMLD and communities facing disadvantage to help develop and share these resources.

opening was attended by over 50 teachers, many of whom had shared our journey through lockdown.

- Recordings of sessions offers lasting visible legacy to the training, whether or not they were able to attend themselves.

Actual outputs

- A hybrid model that provides scalable content and methods of access for teachers: live training sessions and events on specific topics and themes linked to the collections, a bank of pre-recorded training videos and content which can be accessed outside of live sessions, and on-site talks, workshops and social events

Lessons learned

- Once worried about losing valuable relationships, our hybrid training programme reinforced them.
- Teachers found our after-school online sessions more accessible,

and they provided a welcome wellbeing boost as we learnt together.

- Museums and schools have much to learn from each other if you make time and space to listen, share and exchange ideas. These relationships can plant seeds for future collaborative projects.
- We benefitted from being able to reflect and plan together. If you are working on your own in your museum, can you partner with other local cultural providers to share learning and support one another?
- Be resilient and persevere! Running sessions online also minimised the risk, so we could cancel or scale up easily in response to demand as we watched the bookings come in (or not!)
- Even if you programme a ‘miss’, don’t let that put you off. Be kind to yourself and give time for relationships to develop.

Find out more

schools.fitzmuseum.cam.ac.uk

Rosanna Evans, Learning Associate Schools and Teachers, The Fitzwilliam Museum
rfe22@cam.ac.uk

Kate Noble, Senior Research Associate Museum Learning
kjr21@cam.ac.uk

Read more about *Communities of Practice*
wenger-trayner.com/introduction-to-communities-of-practice

Culture Club:

Engaging LGBTQ+ Community in Conversations around Equality, Diversity and Representation



Summary

Culture Club enables diverse communities to explore The Box collections, asking questions of The Box around the areas of equality, diversity and representation.

Launched in March 2021, the first cohort of *Culture Club* invited those who identify as part of the LGBTQ+ community to explore our collections. The club met fortnightly across a virtual platform to identify and research elements of the collection that were of interest. The group co-curated and co-designed an exhibition that raised questions around LGBTQ+ representation at The Box (March– June 2022).



Background

The Box is a new Museum, Galleries and Archive which opened in 2020 following a major rebuild of the city's original museum and art gallery, bringing together a range of city collections, including the city archives, South West Film and Television Archive and South West Image Bank. The Box aims to support its local audience whilst attracting visitors both regionally and nationally.

“The institution must ensure representation is integral to all aspects of its work, from cataloguing to exhibitions, collecting to engagement programmes.”

Challenges

The Box aims to ensure that it represents all members of the community, regardless of age, background, ethnicity, class, gender, ability or sexuality. *Culture Club* aims to be one way of trying to meet that aim.

Approach

The project used previous contacts and an open call to recruit people who identified as part of the LGBTQ+ community to join *Culture Club*. We worked with a local LGBTQ+ support group, *Pride in Plymouth*, as a partner to ensure that members of the community recognised a safe and respected organisation and to help break down any perceived barriers to working with a major arts and cultural organisation.

Intended outcomes

Enable an open and frank discussion around issues of representation between members of the LGBTQ+ community could and the organisation.

Intended outputs

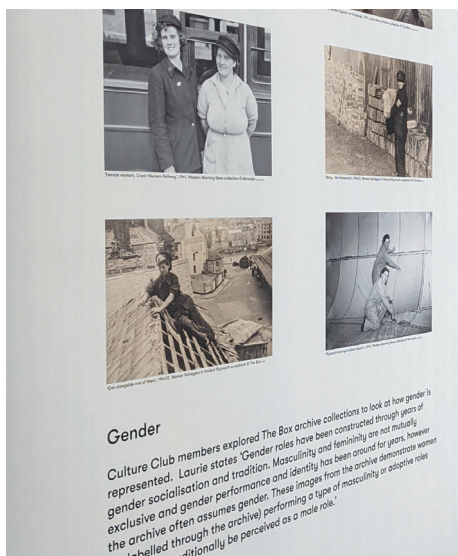
A small exhibition exploring the issues raised in those conversations.

Obstacles and issues

- The outbreak of Covid and subsequent lockdown changed the original plans of developing a project where people explored our collections in person to a virtual experience. This meant being able to deliver sessions where participants felt engaged and part of a group whilst never meeting in the same room or seeing the physical collections. This lack of personal contact meant that personal connections between members of the group took longer to form than would normally be expected in a group who meet regularly. This in turn led to some group members taking longer to feel comfortable exploring some of the issues being raised around representation.
 - The lack of access to the physical collections meant that the group were limited to exploring those objects that had some digital representation; however, that led to interesting discussions around how and why certain objects have been digitised, whilst others have not.
-

Actual outcomes

The group explored a wide range of issues around representation across



a wide range of our collections, from negative reporting of LGBTQ+ issues in our film archive to gender stereotypes, use of language in cataloguing to interpretation of artworks.

Actual outputs

As the group had diverse interests, developing a cohesive narrative for the exhibition was difficult leading to a decision to represent the issues raised as a series of questions for the visitor, entitled "Where Am I?":

- Where am I? In terms of representation of LGBTQ+ artists and makers;
- Where am I? In terms of representation in works of art;
- Where am I? In terms of representation in the media collections;
- Where am I? In terms of representation in 'official' collections and archives.

The exhibition also showcased participants' personal objects and their importance as a response to potential lack of representation in other areas.

Lessons learned

Whilst a virtual only project presented a challenge, there were some positives, including enabling some participants to join who would have found it more difficult meeting in person.



- The willingness of the institution to engage in difficult conversations is appreciated by community members and seen as a step in the right direction around representation.
 - Having a partner organisation involved in the project (*Pride in Plymouth*) enabled participants to see the project as 'legitimate'.
 - The institution must ensure representation is integral to all aspects of its work, from cataloguing to exhibitions, collecting to engagement programmes.
 - The questions raised by the participants to feed into future policies and decisions taken across all departments of The Box.
-

Next steps

Culture Club is currently recruiting a new cohort of community members to explore issues of diversity and representation, of anyone with lived experience of racism. Whilst this iteration will have a much more physical approach, a blended offer will hopefully enable increased participation.

Find out more

Pride in Plymouth was represented by Dr Alan Butler throughout the project – alan.butler@prideinplymouth.org.uk

Loan Boxes Live!

Summary

We aimed to develop a blended learning package through a specialised virtual workshop combined with Loan Box resources, bridging the gap between classroom and museum-based learning on Viking history.

Background

Our school visit activities include a range of immersive, hands-on and object-based learning for primary schools. We have offered *Loan Boxes* of themed historical objects for hire since 2005, and a range of interactive virtual outreach sessions via videoconferencing since 2011.

Challenge

The Covid-19 pandemic saw increased demand for online content and virtual sessions have stayed popular both locally and further afield. Feedback from teachers showed they were still keen to provide tangible experiences with objects whilst learning remotely and we were keen to expand sensory learning through *Loan Boxes*.

Approach

Loan Boxes Live! combines remote learning and in-person object exploration through a trade-themed session with a knowledgeable Viking character guiding the class through *Loan Box* objects, training them up as Viking traders. Live engagement allows the adaptability with content and language, answering questions in real time and providing a more

memorable experience than videos and notes would give.

Intended outcomes

- A successful remote hybrid learning offer.
- For pupils to enjoy meeting a Viking character and learning about Viking-age trade through object handling and interactive guided learning.
- A multi-sensory approach to support children, including those with additional needs, to make connections, understand new concepts and retain information.

Intended outputs

- To source accurate replica objects to emphasise connections with finds on display at JORVIK.
- Multi-sensory resources to supplement virtually guided object handling, inspired by the JORVIK ride experience.

Obstacles and issues

- Cost: limited funding for new replicas (and balancing the risk of loss while on loan).
- Schools must currently collect and return *Loan Boxes* themselves, limiting the reach of this offer to local schools.
- Maximising engagement with multiple objects during the virtual session while keeping to time (45 minutes), without sacrificing interactivity.

- Technology: connection stability and image/sound problems on the day. Advance testing does not guarantee smooth connections.

Actual outcomes

"Using the live loan box with the children was such a positive experience. The children had the opportunity to become proper historians and immerse themselves in the learning. It made the history become less of just a 'narrative' and more of an exploration of the past by using key history skills"
Year 5 teacher, West Yorkshire.

- Successful trial delivery to a Primary school, who gave the above, very positive, feedback.
- Sessions were kept to time and included discussion of a good range of objects.
- Teachers were briefed in the test call to have the *Loan Box* ready to use beforehand, so pupils were able to make immediate links between the objects in the classroom and on screen.

“The children had the opportunity to become proper historians and immerse themselves in the learning.”



Actual outputs

- New bespoke replica artefacts for Viking Loan Boxes with fact cards showing the real artefacts they are based on.
- Literacy and drama activities were also included to keep the learning going after the live session. Original trade-based scripts adapted from the sagas as well as Old Norse language activities to continue the children's character development as Viking traders.
- Pilot of costume activity for live dressing up was well received and utilised existing children's costume, retired from on-site workshop provision due to COVID.
- Scent cubes (small plastic boxes containing scented liquid) from the suppliers of the world-famous smells on the JORVIK ride added another, portable, layer of olfactory engagement with the 10th-century smells of leather, woodsmoke, forest and wool.

Lessons learned

Since introduction, we have tweaked the session structure to manage time more effectively, maximising interaction between the host and pupils.

Communicating with teachers beforehand also proved beneficial as their familiarisation with objects and setting costumes out limited time lost during the session. We also learned to challenge ourselves to think more creatively about remote learning activities.

Next steps

We have since developed a Tudor-themed *Loan Boxes Live!* session using our existing Tudor box, but we are still looking to trial this in 2023.

Our standard sessions still make up the vast majority of our virtual bookings however, likely due to our stipulation that boxes cannot be posted. We are considering new ways of offering access to objects, such as enhancing packaging to facilitate

post by courier, or even utilising 3D printing technology to reduce the risk of expensive breakages.

Thanks to some generous charitable funding, we have begun developing a new range of Sensory Loan Boxes that specifically foreground the exploration of historical themes using objects, scents, imagery and soundscapes. The initial success of *Loan Boxes Live!* opens up new possibilities of creating special tie-in digital sessions for schools hiring these boxes too.

Find out more

jorvikvikingcentre.co.uk/education/loan-boxes

Contact Erin and Rachel at learningteam@yorkat.co.uk

Learning for Peace:

How to Run a Learning Programme with No Physical Museum Space

Summary

The Peace Museum has remained closed since March 2020, first due to COVID-19 and then whilst we redevelop and prepare to move into new premises. During this time, we have adapted our programme to a blended model, with workshops taking place directly in schools and sessions delivered online.

Background

The museum launched a new core schools programme back in 2017 and since then over 10,000 pupils have taken part in cross-curricular peace themed workshops, both in the museum and in school. The museum has also run a successful outreach project, Choices, which offers a range of sessions for schools on choices in relation to conflict and violence, being safe online and propaganda. Sessions are delivered by our Learning Team for KS 1-3, with bespoke sessions for KS4 and beyond.

Challenge

When the museum closed, all delivery ceased.

Approach

We had to switch to virtual delivery and find other ways to engage schools with the collection. Once restrictions allowed, we wanted to get back into schools to deliver workshops directly.

Intended outcomes

To adapt our delivery to a blended model promptly with minimum disruption.

Intended outputs

- Have virtual sessions ready to go as soon as possible and begin delivering;

“ We had to switch to virtual delivery and find other ways to engage schools with the collection.”



- Create online resources and physical learning packs that could be used by teachers and families to support home learning;
- Adapt all sessions to in classroom delivery.

Obstacles and issues

- We had to consider the safety of using various online platforms and how we could ensure children and young people were protected.
- Much of our delivery is focused on developing critical thinking skills through discussion and interaction. This proved challenging in a virtual space with schools, as whole classes would be online as 'one' participant. We therefore had to rely on teaching staff facilitating discussions.
- Whilst the *Choices* programme successfully transformed into digital delivery, our core education programme sessions involving interaction with objects could not be adapted to work virtually. There was not a huge demand for these sessions from schools. We chose to wait until we could run these sessions in the classroom again and focused on offering these as in classroom sessions when restrictions allowed.
- We created free online resources for teachers, but it was hard to measure the uptake. We had to provide something useful that would allow schools to approach this topic themselves without booking us.



- We lost contact with some schools who had previously worked with us. This was either because of the impact of the pandemic on schools in general, or teachers moving on, but also some schools had always visited us in person, so online / in the classroom was not the right fit for them. We are on track to meet our pre-pandemic figures for 2022–2023 after a year of decreased numbers.

Actual outcomes

- We now have a fully hybrid learning model that is working.
- We successfully adapted our sessions to work in schools and have managed to develop new content and sessions for KS3 despite remaining closed.



Lessons learned

- Ensure digital delivery is a factor within your child protection/working with children and young people policies and procedures.
- Implement a system of measuring engagement/number of downloads of the online resources to measure success.
- When delivering virtually to school groups, involve the teaching staff wherever possible prior to session to brief them on the key discussion points and agree on session management methods.
- In-classroom sessions are a great offer for schools – it helps them avoid expensive costs for travel and additional staff. Ensure they are exciting and engaging experiences with as many objects as possible to make it feel like a museum session. Preparation can be time consuming and travel costs for staff need to be factored into your planning.

Next steps

There is now a demand for more in-person sessions, but virtual sessions allow us to engage with more people and work better for some groups. Some of the *Safe Online* sessions run by Jude are for teachers, parents and safeguarding professionals – online works better for this audience. We have been pleased with the take-up of this delivery offer amongst this client group and are moving to maximise on this opportunity moving forward.

We are looking ahead to what our delivery model will be and how this will impact our team after the museum reopens. We want to keep providing sessions in schools alongside re-establishing our on gallery learning programme, with digital sessions in place. It will require planning to ensure this programme can continue, with the added pressure of a new gallery and back to offering in museum sessions.

Find out more

peacemuseum.org.uk



Museum in Your Room:

Using 3D Printed Replicas for Object-based Hybrid Learning in Hospital Schools by the V&A



Summary

The V&A learning department developed a research and training programme with teachers at Great Ormond Street Hospital School which sought to bring museum learning on ward to children and young people, using 3D printed museum objects.

Background

A strategic area for V&A South Kensington learning is understanding barriers to access the museum. One domain the Museum hoped to expand was access to children who were unable to attend the museum due to health concerns.

To help us understand the context of the hospital school, we shadowed lessons and hosted a research forum with teachers. Insight into needs, challenges, and opportunities shaped our approach to designing resources around the chosen 3D printed replicas.

Challenge

How might the V&A use 3D printed replicas to encourage tactile and sensory-based learning beyond the museum walls?

In this instance the pilot was focused on learning in hospital schools, where children may have a wide range of additional and complex needs and was designed to be delivered by hospital school educators.

Approach

Using 3D printed replicas of Museum objects (which crucially could be sanitised in between each learner's use), the programme was designed for a wide range of SEND on ward. We worked with designer *Gayle Chong Kwan* to develop sensory activities, encouraging students to experience the objects in different ways, such as using filters, reflections/shadows, or exploring through non-visual senses to alter

perception. Students were prompted to describe and illustrate their sensory experience, providing the foundation for building narratives.

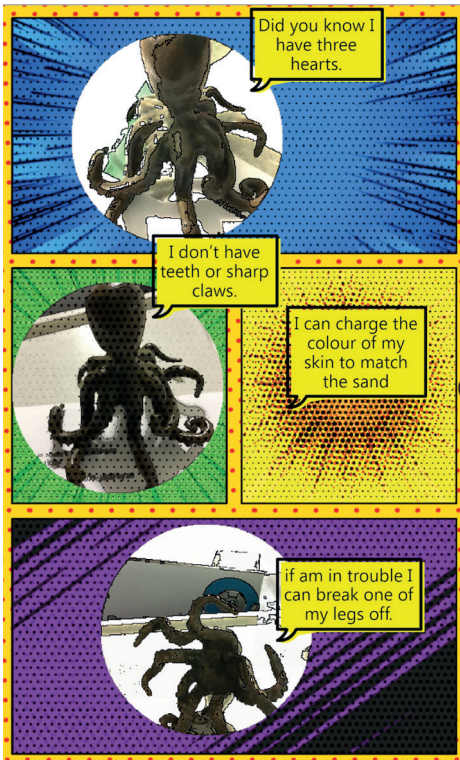
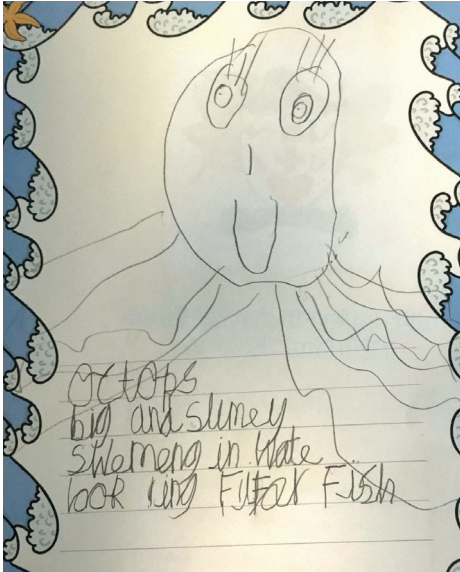
Suggested activities used technology and materials that are easily accessible in the hospital school such as animations, illustrations and storytelling. We also created digital 3D scans of the objects which can be explored using augmented or virtual reality applications freely available online.

Intended outcomes

- To introduce the V&A and object-based learning to young people who might not be able to visit the museum.
- To inspire curiosity and creativity for both teachers and students in the hospital school.
- To increase the V&A's knowledge and understanding of diverse needs to better serve our audiences.
- To improve access to the V&A's collections.

Intended outputs

We were not prescriptive with specific outputs as we wanted GOSH teachers and pupils to co-design a programme that best suited their needs and to feel empowered to experiment with the objects and tap into their own creativity.



“One domain the Museum hoped to expand was access to children who were unable to attend the museum due to health concerns.”

Obstacles and issues

- Complex and wide-ranging needs of learners meant that the programme had to be flexible and adaptive, whilst practical needs (such as limitations of learners in medical isolation) needed to be addressed.
- Covid outbreak limited activity in the hospital school and face-to-face interaction.
- Difficult to track quantifiable measures without adding too much to teacher workload.
- Difficult to capture student experience as V&A staff do not observe sessions.
- Connecting the objects and activities with the V&A, somewhere pupils may never have heard of or visited.

Actual outcomes

- Pupils engaged with the objects and responded creatively with a wide range of outputs, both digital and in person.
- Remote delivery via Zoom meant parents and siblings engaged too.
- Flexibility allowed teachers freedom to experiment and adapt.
- Adapting evaluative techniques via remote delivery.

Positive feedback from teachers:

“All the resources are brilliant – ‘grab and go’, adaptable, engaging”.

“The students and parents were equally excited and engaged as it is so long since any of us have visited a museum! I think the project worked very well for our setting as we could adapt it easily for individual students needs/interests and allowed great freedom to go along whatever route the student chose”.

Actual outputs

- Animations using 3D printed objects, drawings, poems, stories, digital design.
- In response to teacher and pupil needs, we produced a digital resource folder that contained the information teachers desired and combined haptic and digital approaches to engaging with objects.

Lessons learned

We learnt that teachers needed adaptable activities for a range of ages and abilities. Flexibility around individual (bedside) and collaborative (classroom) working was important, with opportunities for students to join at any point. Teachers were keen to have options for quickfire activities as well as opportunities for longer term projects.

Based on feedback from teachers in an online survey and critical creative session, the 2nd iteration of resource was adapted to include:

- A “flexible framework”, denoting types of activities (grab and go, stop/start, take it further and multi-sensory).
- “Meet the object” cards for pupils to engage with themselves.
- Theme cards (environment, storytelling, making, collecting and curating) to help focus sessions.
- More effective methods of evaluation: critical creative sessions as opposed to online forms.

Next steps

We are building and expanding our collection of 3D printed replica objects and resources to loan out to further hospital schools, incorporating our learnings throughout this project.

Find out more

vam.ac.uk/blog/museum-life/bringing-the-va-to-hospital-schools

Elizabeth Galvin, Head of Learning and Digital Programmes

E.Galvin@vam.ac.uk

Marc Barto, Senior Producer: Digital Programmes

M.Barto@vam.ac.uk

Faunsia Tucker, Producer: Audience Engagement

F.Tucker@vam.ac.uk

Learning the Lesson:

Reaching New Audiences through Livestream Learning

Summary

From the outset, *Livestream Learning* from RDMSC was designed as a permanent component of our learning programme, and not just a COVID stop-gap. It presents an important opportunity to expand our audience by removing geographical barriers and lowering costs to schools.

Background

RDMSC in Roald Dahl's home village of Great Missenden, houses his complete archive and Writing Hut. We aim to show 5- to 12-year-olds, their families, and their schools that everyone is a storyteller.

Challenge

Though the project has been very successful in creating a high-quality digital learning experience, reaching schools has been more difficult.

However, once our onsite programme re-opened in September 2021, interest dwindled. In the past, our brand power and clear curriculum links have sold the programme for us, so it quickly became clear we needed to reach new audiences. We needed to build new marketing skills to reach them.

Approach

We began to market our new blended programme, but we had limited experience of how to advertise ourselves to schools. We included *Livestream Learning* on our website and updated listings that we have with our local authority and bridge organisation as usual. We also made direct approaches to schools by emailing those who had had their onsite visits to us cancelled during COVID and who hadn't returned to

us yet. And then we waited for the bookings to roll in...

Intended outcomes

Sell 70% of our Livestream bookings, engaging up to 450 classes per year.

Intended outputs

- Increase bookings from outside of our typical distance radius.
- Increase bookings from schools who may not be able to afford our onsite programme – possibly because of class size or coach cost.

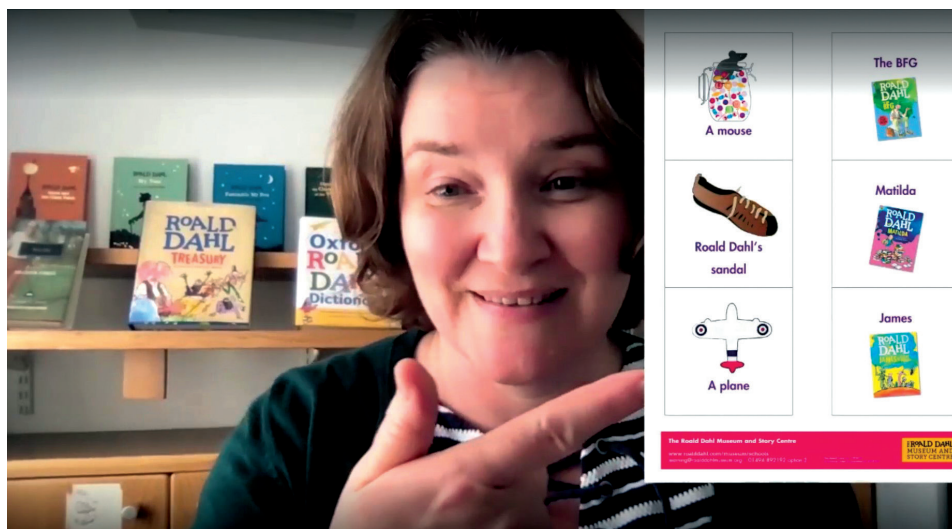
Obstacles and issues

Bookings for our Livestream programme did not roll in as we'd hoped. Our onsite sessions re-opened in September 2021 and booked well but this wasn't matched by our online sessions.

We realised that our Livestream offer is different in terms of both cost and geographical reach (particularly as our subject appeals across all regions). This meant that we needed a different and more targeted marketing strategy.

Actual outcomes

- In 2021–22 academic year, our Livestream bookings reached 20%.
- We have developed and are continuing to refine a more considered and responsive marketing strategy.
- A realisation that we haven't cracked it yet! We are still learning and trying new marketing methods.





“ We have increased our geographical reach, including sessions to California!

Actual outputs

Our marketing strategy for Livestream has included:

- Facebook advertising, where we targeted those interested in “Education” and “teaching resources”
- To choose geographical regions, we looked at the National Literacy Trust and its regional hubs. We selected Cardiff for its Roald Dahl connection, Peterborough as being just a little outside our usual radius of visitors and Cornwall for being very far away.
- Free “stakeholder” sessions to non-teacher audiences, such as local authorities and learning consultants.
- A discount for local schools as they are less likely to visit us in person.
- Adverts in national teaching press, such as Teach Primary.
- Paid-for email campaigns from specialised marketing companies.
- Exhibition stands at local teaching networks.
- Participating in national corporate schemes such as Hyundai’s “The Great British School Trip”.

We have increased our geographical reach, including sessions to California! That teacher found us through the brand of Roald Dahl.

Lessons learned

Our targeted Facebook adverts had the most direct effect on bookings, but this hasn’t been as significant as we would have hoped.

Winter 2021 – 10 areas targeted over a 6-week period.

- 11 out of 14 enquiries in that period were responding to the Facebook advert;
- 6 of those became bookings
- Autumn 2022 – 2 areas targeted over a 1-month period.
- No enquiries came in over this period

We’ve also attended local events such as Cultural Champions launch events from the Bucks CEP. This not only gave local schools a chance to speak to us directly, but also opened the door to further partnerships for other projects.

Good information on your website is incredibly important. Due to unforeseen circumstances, we lost

control over our website earlier this year and could no longer provide comprehensive information on our livestream programme. This has created a barrier for schools who wish to browse our programmes before enquiring.

Next steps

Running free “Taster Sessions” for teachers in January 2023, including a free classroom resource;

Creating a social media trailer for livestream sessions;

Using livestream in our targeted project work with schools. This will be another way of using our skills and experience. We hope that talking about those projects will be indirect advertising for our livestream programme;

We are looking to engage a PR consultant with a schools’ specialism;

Exploring the potential of a cheaper livestream session during the cost-of-living crisis as a PR angle.

Find out more

- literacytrust.org.uk/communities/#national-literacy-trust-hubs
- RDMSC Learning Team – learning@roalddahlmuseum.org

Ancient Egypt: Marvellous Mummification



Summary

The *Ancient Egypt: Marvellous Mummification* workshop at National Museums Liverpool (NML) is one of the most popular workshops on offer for Primary schools.

Background

NML comprises seven venues, including some of the most visited museums in England outside of London. Our collections are among the most important and varied in Europe.

Challenge

We welcomed the return of schools and groups after lockdown restrictions eased. Though the return to in-person workshops created new challenges, with operations now geared to a virtual audience.

Approach

The Learning team sought to develop a hybrid offer enabling local schools to take advantage of in-person workshops on their doorstep. In tandem with virtual classrooms using Microsoft Teams, to engage schools further afield, or unable to return to in-person sessions due to health reasons or other factors. During the in-person session, pupils, working alongside an expert from the Museum, were encouraged to develop and communicate their knowledge and understanding through speaking, listening, and reading activities.

The virtual classroom engaged with schools via a live video link from the World Museum. To ensure the virtual workshop was as interactive and engaging for pupils as possible, teachers were asked to complete a short activity with their class prior to attending the live workshop.

Intended outcomes

To produce in tandem, both in-person and interactive virtual workshops linked to national curriculum subjects, which provide opportunities for learning, interaction and creative outputs to raise awareness of Ancient Egyptian culture.

Intended outputs

A virtual classroom and an in-person workshop *Ancient Egypt: Marvellous Mummification*

Obstacles and issues

- The financial investment required for the technical infrastructure to deliver the virtual classroom was far greater than initially forecasted.
- There were issues with Wi-Fi/Ethernet provision in the learning spaces where the virtual classroom was delivered. Installation of new network points in the spaces was an additional cost.

- Some of the Learning team were not comfortable using technology and needed additional training to maintain the knowledge required. An additional facilitator was needed for the virtual classroom delivery, compared with one facilitator to deliver the in-person workshop.
- We had to research and develop additional safeguarding procedures in line with guidance for online delivery and connecting with pupils in their own homes.
- Creating opportunities for interactivity when delivering purely via a screen was difficult. The solution was the creation of pre- and post-workshop activities (downloadable pdf resources) for pupils to do in school based on art, role play, games, puzzles and quizzes.
- With the return in demand for in-person workshops, the use of learning spaces in the museum needed to be reviewed. The technical set up for the virtual classroom was different to the in-person delivery model, which meant frequent room set up changes and extra coordination.

Actual outcomes

We met the original aims of the project: to produce in tandem, both in-person and interactive virtual workshops.

Actual outputs

Despite logistical challenges, we were able to deliver on all planned project outputs. Additional outputs we had not planned for but achieved were:

- Virtual classroom resources for summer schools supporting pupils most at risk of falling behind academically;
- Modified workshop content suitable for ESOL audiences (English for Speakers of other Languages), including support materials such as key vocabulary lists to help prepare students to maximise their understanding of English better;
- International Summer School workshops for university students on long-distance learning courses.

Lessons learned

- A more efficient operational plan to reduce the number of facilitators needed for virtual workshop delivery.

- Reduced need for individual test calls with schools for each booking given other rota commitments for the Learning team.
- Use different handling objects as resources for workshops run in tandem. Extra time had to be factored in for moving objects between rooms, as the virtual classroom set up was in a different learning space to the in-person workshop.

Next steps

We will continue to offer blended learning to support access to our programme. Sales for virtual classroom workshops have dropped, however, there continues to be demand from schools feeling the impact of financial cuts. The virtual offer provides access to NML's collections to schools around the country who are struggling with ever increasing school trip costs.

Virtual classrooms will continue to be programmed to extend our national and international reach.

We plan to use live dictation in our virtual workshops reaching schools who do not have English as their first language.

We are reviewing the content of the blended *Marvellous Mummification* workshops, to ensure learning outcomes and language appropriately portray the African continent and how wider histories of its diaspora are shared. This will be done through community engagement and co-production with external stakeholders.

Virtual classrooms will continue to be programmed to extend our national and international reach.



Find out more

liverpoolmuseums.org.uk/schools-and-groups/workshops/virtual-classroom-ancient-egypt-marvellous-mummification

liverpoolmuseums.org.uk/schools-and-groups/workshops/meet-mummy

Museum on the Move:

Reaching Remote Schools in Northern Ireland



Summary

Museum on the Move is a blended learning programme from National Museums NI that combines a virtual link to individual classrooms with a loan box service. Initially developed as a pandemic work-around, this popular programme is now entering its third successful year and has become integrated into a hybrid onsite/offsite learning offer. Delivered free of charge by all four of our museums, the programme is now relied upon by many rural and urban schools across Northern Ireland as the only opportunity available to them to access museum collections.

Background

The initiative was developed in response to the results of a teacher survey we carried out in May 2020 that revealed an interest in a blended learning approach. We set out to create a programme that would take on this approach and aim to resolve some persistent long-term barriers to engagement, such as cost of transport and rural isolation.

Challenge

Initially, the problem being addressed by the programme was reaching schools while our sites were closed during the pandemic, but as the cost-

of-living crisis soon after it receded, the challenge of reaching schools has remained constant, if not greater.

Approach

We began with a pilot in 13 schools in 2020 over ten weeks. Since then, the programme has grown and developed to offer curriculum-linked topic areas that connect to our collections across a wide range of subjects. We now reach up to 56 schools a term, with the team delivering up to 28 sessions a week. Schools receive a loan box for 10 days and participate in two online sessions per class.

Intended outcomes

The intended outcomes of the initiative were around reaching new audiences, specifically those schools with little opportunity to visit our sites and diversifying our offer by finding new ways to deliver creative object-based learning in classrooms.

Obstacles and issues

The biggest obstacles associated with delivering this programme are logistics and scheduling. Finding a way to get loan boxes physically out to schools all over NI, and creating a pattern of delivery that works alongside onsite sessions is a true challenge. Another big challenge we face today is finding a sustainable way to meet the huge demand for the programme from schools.

We have experimented with different approaches to meeting these



“**The programme is now relied upon by many rural and urban schools across Northern Ireland as the only opportunity available to them to access museum collections.**”

challenges and have settled on outsourcing loan box deliveries to a courier service and scheduling online sessions at times when onsite visits are less likely – such as in the afternoons and on Mondays when the museums are closed.

Being oversubscribed is less easy to overcome, as we must balance the demand against the needs of schools that take part in our onsite programme and the capacity of our learning team.

Actual outcomes

Analysis of the number and type of schools engaging in the programme has provided encouraging results that show Museum on the Move is succeeding in attracting many schools who have never visited, or whose

engagement with the museums had lapsed. Early results showed that one in five schools had not visited us for more than five years. Almost one-third of participating schools are located in rural communities.

Lessons learned

Having completed two full years of delivery of *Museum on the Move*, we have learned that the combination of connecting to individual classrooms virtually while children explore collections with the help of their teacher offers a valuable alternative to a museum visit. By using a two-session format for each class delivered a week apart, we have found that the children have a real chance to reflect on what they have learned, carry out their own research and ask follow up questions in the second session. This offers

a deep level of engagement in the subject and a chance for us to develop a good rapport with the class and their teacher over time.

Next steps

The challenge ahead for us and many other museums is figuring out the feasibility of sustaining a hybrid approach now that schools are making a welcome return to our museums. So far, by setting aside specific times for each offering, and by limiting the number of daily school visitors, we have found it possible to deliver on and off-site programmes side by side. It is certainly more complex to run than a purely onsite offer, but the overwhelmingly positive feedback we have received and the fact that we know it reaches schools we have previously struggled to reach provides all the evidence we need to continue to offer this alternative and very enjoyable way of working with schools.

Find out more

nationalmuseumsni.org/learn/museum-move

Liberty of Southwark Community Digital Producers

Summary

This programme connected people with their local heritage by blending online and in-person strategies, compensating them for their time and supporting them in the creation of digital content inspired by incredible archaeological discoveries found during a development-led dig.

Background

As part of the archaeological excavations of Landmark Court, MOLA invited residents in Southwark to enrol on the "Liberty of Southwark Digital Producer" programme between September – December 2021, funded by U+i. The target audience were local people with potential interest in archaeology and learning skills in media creation.

Challenge

- Connect Southwark residents with their local heritage and development-led archaeology;
- Support their expression of this connection through hybrid engagement strategies;
- Compensate them fairly for their contributions.

Approach

We organised a 3-month course comprising of 4 in-person workshops, 4 Zoom sessions and optional weekly "catch ups" and/or tutorials. Attendance was paid, travel expenses were covered, and all meetings were framed with ground rules aimed at empowering the producers.

Intended outcomes

- Establish a community-led programme by using flexible approaches so that different learning needs were met, participants were paid for their contributions, and restrictions on time (such as picking up children from school and work hours) could be catered for.
- Offer a rare opportunity for commercial and public stakeholders to come together and exchange knowledge.

Intended outputs

We weren't 100% sure what the actual outputs would look like – this was entirely led by the producers. But we hoped the digital media content produced would be highly expressive and creative.



“ This programme connected people with their local heritage by blending online and in-person strategies.



Obstacles and issues

- The recruitment process took far longer than expected as it is often underestimated in such projects.
- Paying the producers was fraught with bureaucratic obstacles, but we worked with our finance team to simplify the process.
- We had to manage expectations about how much learning was achievable for participants within the allotted time (such as filming, editing and sound).

Actual outcomes

We were able to inspire 5 community producers by bringing them into direct dialogue with the archaeological team, and also facilitated live updates about finds being discovered, an



online behind-the-scenes tour and a rare chance to come onto site during the excavations.

Qualitative evaluation feedback and weekly catchups ensured that the course was adapted to meet individual needs.

Technical aspects (such as film and photography techniques) were explained in an accessible manner by digital freelancers John Coborn and Ben Holden, who also constructively challenged the producers.

This helped them to shape their sense of place within the local area. Producers were able to build on their existing interest in the history of Southwark and gain new perspectives:

“I look at London from the outside and am still discovering it, it has so much history, to be able to see a part of it in this way is a rare thing, I can't help being intrigued, what a gift to be given. A unique opportunity”.

Community producer,
September 2021

Actual outputs

The community producers created works including poetry, film, audio, and photography. They explored themes such as life, death, time, material remains, home, humour and the layers of history in place. Their 10 pieces of co-produced digital content were shared on the Liberty of Southwark and MOLA media platforms and received over 20,000 views in total.

Lessons learned

The invitation to local residents stated no previous digital or archaeological experience was required to take part. This was extremely inclusive, and some producers created content for the first time. But it did also mean that some quality control had to be established. We worked with our own communications team to agree what was ok to share on our social media platforms (i.e., issues with copyright, use of branding etc.)

Hybrid engagement was key to the delivery of the project. The digital component gave the producers time to reflect and use their time flexibly; most of the 1:1 catch ups and tutorials wouldn't have happened if they weren't online. But the in-person sessions allowed for creative energy and authentic comradery which was key to maintaining morale.

Next steps

We believe we have created a model that can inform future collaborative projects. Future initiatives will build on lessons learnt; to streamline compensation payments to participants and consider in more detail how our audiences would be recruited and collaborated with.

Find out more

Watch the co-produced videos:
rb.gy/h8iths

Shantol Campbell
communityengagement@mola.org.uk

Our Past Your Future:

Interactive Digital Workshops to Engage Primary School Pupils in STEM

Summary

A comprehensive intervention programme of outreach STEM workshops and online resources were developed by Museums Northumberland for 15 Primary school pupils around key employment sectors in the North-East Region; energy, technology, engineering, life sciences and culture.

Background

Our Past Your Future launched in the spring of 2020 as an ambitious project to highlight the North of Tyne's rich heritage of industry and innovation. Museums Northumberland targeted the intervention to schools with high proportions of pupil premium children. All activities were free and designed to increase the engagement of young people in STEM subjects and broaden their knowledge in STEM careers. Current educational research from NUSTEM was used to underpin resource development. The project is funded by the North of Tyne Combine Authority.

Challenge

The project included an extensive outreach programme which became impossible as COVID lockdowns began. All workshops had to be swiftly modified to enable online delivery and interactivity. The development and adaptation of one workshop will be shared here.

Approach

All workshops had to have an interactive approach. To enable this, project staff collaborated with:

- NUSTEM on what IT equipment to use and tools for interactive online delivery;
- Peer support from other STEM Education Professionals who had experience of online delivery through the British Interactive Group Network;
- Schools and teachers about which platforms they used and what they were comfortable delivering in class.

Intended outcomes

Promote the integration of careers ideas into the primary curriculum and broaden children's long-term STEM career aspirations;

Build aspects of capital in families and communities in the area using our local heritage;

Increase the confidence of first and primary school teachers to teach STEM subjects.

Intended outputs

An interactive KS1 Workshop about technology and the intended project outcomes.

Obstacles and issues

Project staff had to learn how to use new equipment and think of novel approaches to online engagement;

Teachers' low confidence in using technology and IT programmes;

School approach to safeguarding was very varied, resulting in different expectations around the platform being used and if pupils could be on camera.

Actual outcomes

The project is ongoing and is due to be evaluated at the end of June 2023. There has been lots of informal teacher feedback given throughout the course of the project:

"The video call technology was brilliant";

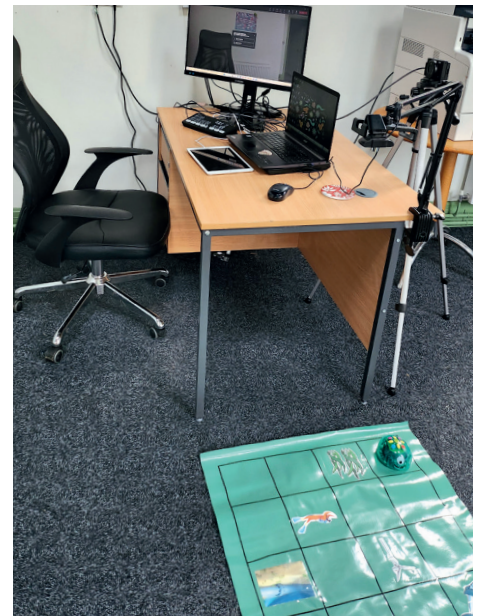
"The children were excited and engaged in the session";

"We were able to build on the learning and do a follow up lesson in the afternoon as the children were so interested".

An added outcome is that teachers and pupils really appreciated engagement from another educational professional at a time when interaction with others was very restricted.

Actual outputs

The online workshop was delivered on all online meeting platforms to 8 schools over the first year of the COVID lockdown periods. The workshop explained what technology was, gave examples of technology & robots used in local companies and highlighted computer programmer as a career. The children then wrote



“ All activities were free and designed to increase the engagement of young people in STEM subjects.

a basic code which was shared with the presenter of the workshop who then remotely programmed a Cubetto robot to navigate a map.

To adapt the workshop for in-person delivery a class set of EaRL Coding Floor Robots were purchased, pupils could use the robots in small groups instead of the whole class programming one remotely. The in-person workshop has been delivered to 12 schools post lockdowns.

Lessons learned

The content and delivery work online, it maintains interaction and fulfils the aims and objectives;

Finding means to engage with the class beyond the chat box are an important part high quality delivery, sharing a whiteboard is an example of a solution to this;

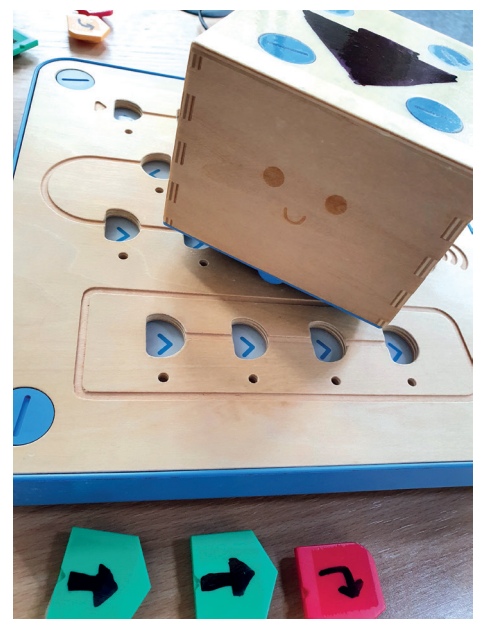
It was necessary for flexibility to be built into the part of the delivery,

we needed to be platform agnostic (Teams, Zoom, Hangouts) and work within the limitations of a school for delivery to be successful.

Meeting with the teacher before the online workshop allowed an opportunity to run through the content and check all the IT worked to minimise IT problems on the day.

Next steps

As the funding for the project comes to an end the team are adapting resources so they can be integrated into the core education offer at Museums Northumberland. This involves amending workshops to sit with the theme of the collections and the structure of the school visits.



Find out more

museumsnorthumberland.org.uk/project/our-past-your-future

A Journey of Hybrid Engagement and Partnership Potential:

Showcasing Innovation, Engineering and Technology through Railway Futures

Summary

Railway Futures was a two-day careers event comprising 6 hybrid workshops, an immersive in-person engineering challenge, and a STEM careers fair hosted amongst the engineering giants on display at the National Railway Museum.

Background and challenge

Building on new event formats and responding to schools' and partners' evolving needs for engagement opportunities, Railway Futures explored how to engage diverse audiences in rail and STEM careers through hybrid and in-person activities, delivering on the National Railway Museum's mission to inspire the next generation with the past, present and future of the railways.

Approach

Through partnership working and innovative practice we sought to reach and inspire audiences who may not see STEM careers as "for them". An industry project team was formed, including *Network Rail*, the *Railway Industry Association*, *National Skills Academy for Rail* and *City of York Council*, whose networks and expertise unlocked opportunities to inspire the next generation of STEM professionals through interactive, topical activities and role model representation. Taking a multi-layered approach allowed us to deliver for large audiences and diverse needs in a hybrid world.



Intended outcomes

Railway Futures aimed to demonstrate the real-world impact of the railways and engineering and the sector's exciting future. Participants would recognise their existing STEM skills, Engineering Habits of Mind and potential to develop these further. Ultimately, *Railway Futures* aimed to inspire and improve access to careers in STEM and rail and support the wider STEM skills agenda.

Intended outputs

Day 1 included 6 hybrid sessions for primary and secondary audiences with in-person and virtual engagement opportunities, running simultaneously alongside an in-person challenge activity. Day 2 included a fair activity for further and higher education audiences and the general public.

Obstacles and issues

Internally, we faced operational challenges around conflicting site priorities including space availability and infrastructural works, as well as piloting a new hybrid delivery set-up. Staff resource and capacity also posed a challenge, with minimal experience and confidence in virtual delivery and limited capacity for development and training.

Externally, we worked with various partners whose contribution to planning and development were highly valuable, however balancing all parties' priorities, aims and objectives required careful management.

While event attendance met initial expectations, we felt higher numbers could have been achieved; our marketing push delayed due to public

“Having a clear remit for partnership arrangements is key.”

events requiring an organisational communications freeze in the month prior, leaving a limited period to promote the event and lower participation than anticipated across all sessions. National rail strikes also impacted in-person attendance, with a number of exhibitors and participants needing to cancel at short notice. Aligning Railway Futures within the industry-led Rail Week also posed challenges due to its timing early in the academic year.

Actual outcomes

Full analysis of evaluation data is pending, however, initial feedback from schools, students and industry participants has been positive. We believe we achieved the outcomes we set out to, particularly relating to Engineering Habits of Mind, recognising personal STEM skills and increasing awareness of the diverse careers available in rail and wider sectors. Students told us:

“I did things I had never done before”;

“It’s not something I would normally enjoy but I did”;

“I loved it, it was very creative”.

Actual outputs

We delivered all outputs that we had set out for the project and exceeded KPIs by nearly 50% for both participant and partner engagement.

Lessons learned

The capacity and resource needed to deliver a multi-layered complex event with digital and in-person components is significant and needs to be carefully considered early in the project lifespan. Contingency needs to be built in for operational and logistical challenges that wouldn’t usually be encountered on smaller projects.



Jason Hynes



Jason Hynes

Railway Futures’ success was largely down to close partnership internally and externally, including with Marketing representation on the project team and utilising colleague expertise and resource across the Science Museum Group. Investing in these relationships and understanding partners’ priorities and potential challenges was crucial to ensure overall success.

Having a clear remit for partnership arrangements is key. Project partners’ roles evolved to support in a steering and guidance capacity; this had significant benefits although differed from their anticipated role. Clarity in a written agreement at the point of cultivation would aid this in future.

Next steps

We are committed to running *Railway Futures* in 2023 in a similar iteration, building on this year’s success. This however will be balanced with practical impacts of significant site changes at the National Railway Museum as part of our Vision 2025 transformation. This will require continued flexibility and innovation in how we think about and deliver public programmes.

Find out more

communities@railwaymuseum.org.uk
Community Partnerships & Events
(National Railway Museum)

Trans Pennine STEM Ambassador
Hub (Science Museum Group)

Virtual Excavation:

Embedding the Excitement of an Archaeological Dig into a Blended Schools Programme

Summary

The Enfield Archaeological Society (EAS) identified a gap in engagement with schools in East Enfield and sought to identify further ways to support teachers in delivery of the local history element of the National Curriculum.

Through this, the EAS aimed to identify further ways of engagement through the development of a hybrid schools programme including pre- and post-visit resources as well as sessions. The main driving force behind this was the pandemic as well as creating a sustainable schools programme with limited staff, budget and time.

Background

The Enfield Archaeological Society aims to carry out fieldwork and research in Enfield, to uncover forgotten heritage sites and to understand and preserve the Borough's history. For 2 weeks every summer, the society excavate the foundations of Elsyng Palace; one of King Henry VIII's forgotten homes.

Challenge

Our biggest challenge was how we extract the excitement and skill development that comes from observing and being involved in an onsite excavation and input it into digital and virtual engagement. We hoped to discover and test new flexible methods of delivery that would do this.

Approach

My main priorities were to develop an onsite excavation session from which a virtual session could be adapted and to complete an audit of all existing digital resources available to see what could be used and adapted as classroom resources.

The 3D excavation scans existed already but had never been tested by pupils or adapted to pupil use and I wanted to do this before potentially suggesting 3D scanning the handling objects.

Intended outcomes

- Encourage further use of 3D scanned models of the excavation site hosted on *Sketchfab*;
- Provide an alternative to visiting the site;
- Trial how popular these resources are with teachers.

Intended outputs

- Engage with 3 new primary schools who we have not worked with before in East Enfield through a new onsite session;
- Develop an engaging virtual session.

Obstacles and issues

- Having to be flexible and adaptable to teachers' and schools' needs. For example, one school needed to host all four Year 3 classes in one virtual session at the same time and we knew levels of engagement would be low.

“ Digital resources need to be available further in advance for teachers to build them into their long-term lesson planning.



- With site access falling at the end of the school term, teachers struggled to fit the resources into their lesson planning and some pupils arrived at the onsite session with no knowledge of the site.
- Virtually, we also found that as pupils' knowledge of the site was limited, they found the Q & A difficult.
- Existing 3D excavation scans had existing interpretation for an adult audience and pupils found it difficult to understand what they were virtually exploring.
- Limited time to then develop resources to support these existing scans.

Actual outcomes

We have seen all teachers express an interest to continue engaging with the EAS either virtually or onsite with one teacher mentioning "The interactive asking children what they thought items might be and getting them to explain really engaged children."

100% of teachers said they would be interested in using digital resources in classroom to either prepare for an onsite visit or build on a previous visit.

All teachers said they would only be interested in virtual sessions should they not be able to visit onsite.

The resources and sessions supported pupils' skill development and excitement about the local project. For example, pupils chose the object handling of Tudor objects and site excavation observation as the best parts of their session.

Actual outputs

- We engaged with 3 new schools and 242 new pupils altogether in East Enfield.
- An onsite 90-minute excavation session was developed with 4 carousel activities from which a virtual session was adapted and delivered.

Lessons learned

- Digital resources need to be available further in advance for teachers to build them into their long-term lesson planning.
- Virtual delivery can't replace the excitement and skills learnt from being involved in an onsite excavation but can still offer opportunities to build on existing knowledge.
- You can't just send a teacher a link to meet virtually and deliver your

on-site session; virtual delivery needs to be properly thought out to discover what elements work best within a virtual capacity.

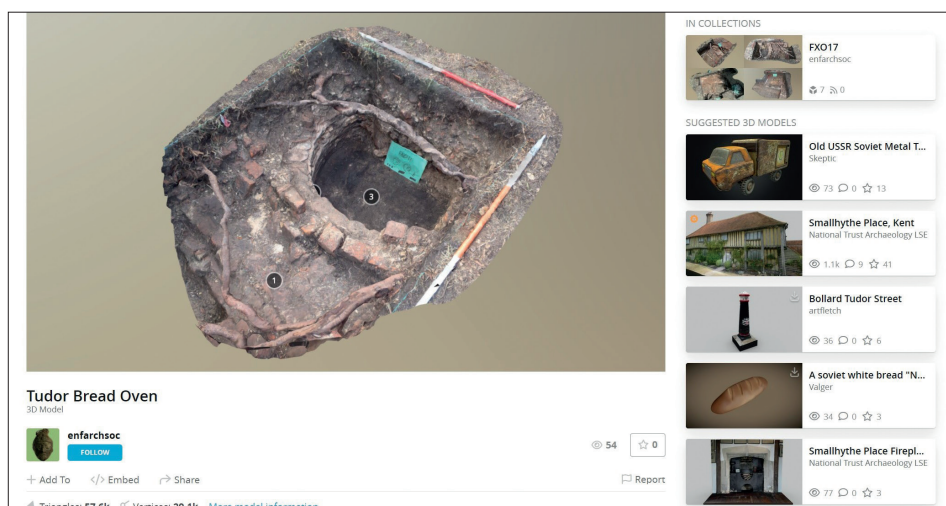
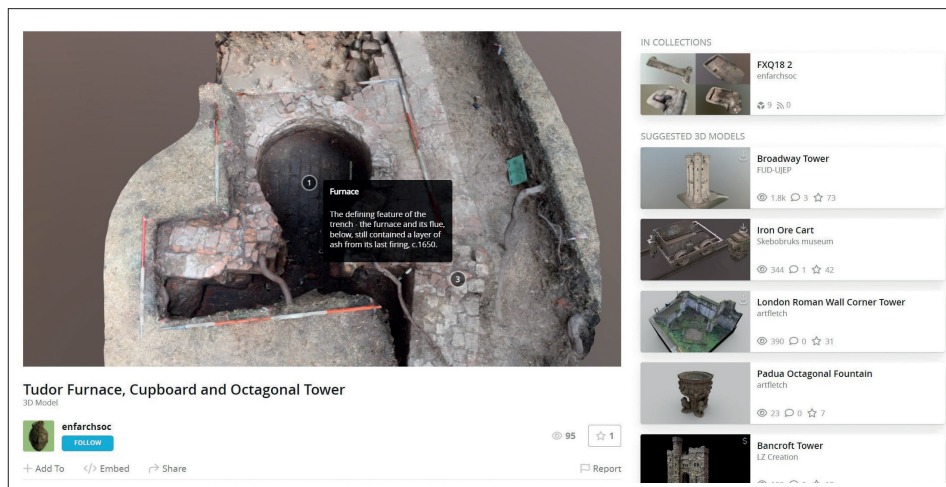
- Both virtual delivery and digital online resources need scaffolding with as much teacher and pupil support as possible.

Next steps

We identified teachers using the resources or mentioning them incorporating them into future long-term lesson planning and the EAS are aiming to continue building these digital resources that teachers can access online. Clearly, these resources either need to feed into preparing for an excavation visit or building on one or they need to replace the excitement and skills development that comes from being involved in a live excavation site and handling artefacts.

Some potential future outputs:

- 3D scanning of the handling objects to use in virtual sessions as well as a resource for teachers to use in classroom.
- Duplicating the existing 3D excavation scans on Sketchfab and creating number touch points for pupils with challenges, questions and conversation starters for in classroom use.



Find out more

Enfarchsoc.org

Project video: www.enfarchsoc.org/news/2022-08-24-elsyng-video

Francesca Chinnery,
Learning Consultant

francescachinnery@hotmail.co.uk

Twitter: @francescainmuseums

Jan Jones, Secretary

secretary@enfarchsoc.org

**Dorian Knight, Cultural Heritage
Development Officer**

dorian.knight@enfield.gov.uk

Can You Give Parity of Experience in a Hybrid Setting?

Summary

What does a good hybrid session look and feel like? Are we going to use it for teaching, or is this more of a professional tool? What skills do we bring, and what do we need to learn?

Background

As museum professionals we love objects. We love holding them, feeling them, seeing the awe and wonder in the eyes of a small person when they hold an object.

Then the pandemic comes, and we all work out how to do digital and get a “good digital experience” that has parity, or at least elements of

it, within the digital realm. At *Leeds Museums and Galleries*, we thought about sensory aspects to what we were doing – what could people find at home or in school that would give them the sense of holding an object? We made films of historic spaces, made 3D digital models of objects, sent sensory lists to teachers, devised interactive activities so workshops weren't just one-way lectures, ran sensory stories with treasure hunts, sent loans boxes out to schools, managed Zooms with children at home and in the classroom and kept everyone safe... but, from our end, it was all digital.

Challenge

Our learning from that was twofold: people often have things at home that can help provide sensory aspects, and for us, we needed a second person co-leading a digital session to monitor any chat and be another pair of eyes.

Approach

We experimented from Leeds Art Gallery with an artist in the classroom and a learning officer online in the gallery at the same time, and at separate times. It worked for the most part, but our audience (the class) was still all in one place, just with one in person and one digital facilitator, and the child led elements were driven by the classroom practice. Hybrid learning seemed quite elusive. Now we are back 'in person', and most of our audiences are happy to share spaces with us. So, is hybrid learning

still 'a thing'? Yes, it is, and it's here to stay, but not in the way we might have imagined.

Obstacles and issues

Our monthly Learning and Access team meetings are now hybrid – we have half the team in the actual room and half the team in the Zoom room. As a meeting chair, I have learnt so much in the last few months and asked myself so many questions... how do you not ignore half the meeting (either in person, or online)? How do you make sure everyone's voice is heard? How can you give parity of experience and not constantly feel like you are not just breaking the fourth wall with sidelong looks to camera? How do you balance being guided by both spaces, at the same time, and what does a good version of that look like? How is it a playful and safe space for everyone? How is it inclusive and accessible? How do you hold the group dynamic?

Lessons learned

Practically, I've discovered the joy of good, moveable kit: a speaker / microphone that captures the room sounds and projects the digital voices back, a separate camera positioned so you can see the whole table, and a big screen or wall to project the digital folks onto. To hold the space, I make sure I can see the chat (and any raised hands) and when we work in small groups, online becomes its own little group. I've learnt that there has to be greater control and structure in





Hybrid is one of the tools we can use to help people access places, spaces, and objects.

the room, no one can talk over each other, and no side natters around the meeting table. That’s hard when you are trying to keep things informal. The Leeds team are generally very vocal. They know and trust each other and aren’t afraid to speak up, but still everyone has said not being in the room is tricky and being online involves more listening than doing.

The planning side of what we do is likely to stay as hybrid. Many of the meetings that contain people from across the country have agreed to have one in person meet-up a year, and the rest purely digital or hybrid. But, the bit the Learning and Access team say they miss online is the coffee, the cake, the chats and the social side of doing our jobs. It’s the bit where the creativity lives. We found a way through purely digital spaces during

the pandemic, but how do we nurture that creativity and inclusion through hybrid spaces? How do we make sure that no-one on screen feels left out at coffee break time?

This sense of disconnection is probably why our audiences aren’t as keen on hybrid sessions as we thought they might be. People come to our spaces to be social or engaged, and they might not feel they get that immersion from a digital or hybrid experience.

Next steps

From what we have seen so far in Leeds, I’m not anticipating hybrid learning will be a mainstay of our programming going forward, but it is one of the tools we can use to help people access places, spaces, and objects, in the way they need to. We have used digital “getting to know you” drop-ins as pre and post visit sessions for SEND groups, so the whole visit experience is hybrid, rather than the specific workshop. Our Collections team have used hybrid workshops for specialist adult engagement with some of our more niche collections, allowing for joint global and local access. The Learning

team are testing hybrid teacher CPD, cross-sector training, and continued digital sessions to combat cost-of-living rises for some schools. And, across Leeds Museums and Galleries, we are looking at inclusive pre-application digital sessions for all advertised jobs.

Each one of those examples draws on different aspects of our skill set as facilitators and communicators. Holding two simultaneous spaces in a hybrid meeting or workshop draws on every facilitation skill we have as professionals, and (certainly for me) some we probably need to learn. Do those juggling skills just come from practice? How else can we gain them? Who else are our allies? And like with anything that involves digital, we need the right technology support to get started.

Find out more

museumsandgalleries.leeds.gov.uk

About GEM

GEM, the Group for Education in Museums, has been helping anyone who delivers learning in museums to connect and learn together for over 70 years. We support sector colleagues in a variety of ways, including training courses, mentoring, publications like the GEM Case Studies, and other professional development opportunities.

GEM's **VISION** is of a connected and equipped community of people enabling learning across museum, heritage and cultural settings, creating inspiring experiences, relevant for everyone; that promote equality – transform and enrich lives.

Our **MISSION** is to support and empower our community of colleagues to connect and develop their knowledge and skills to deliver learning.

GEM membership is available for individuals and institutions, with discounts available for students, volunteers, job-seekers and small sector organisations.

You can find out more about the benefits of joining GEM here:
www.gem.org.uk/join



A large print version is available on request. Please contact the GEM office.

Editor
Katya Provornaya
GEM
Unit B7, Admiral's Offices
The Historic Dockyard
Chatham, Kent, ME4 4TZ
office@gem.org.uk

**GEM Case Studies 31
Social Impact**

Publication:
Autumn/Winter 2023

Case Studies is published twice a year by GEM but all opinions expressed remain those of the named authors.

Cover: National
Museums Liverpool
© GEM 2023

Designed by
Steers McGillan Eves
01225 465546