Impact case study (REF3)

Institution: University of Bath

Unit of Assessment: 23 Education

Title of case study: Generating inclusive practice in informal learning environments for people with sensory impairment

Period when the underpinning research was undertaken: 1 September 2016 – 31 December 2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s): Simon Hayhoe	Role(s) (e.g. job title): Reader in Education, previously Lecturer	Period(s) employed by submitting HEI: 1 September 2016 - ongoing

Period when the claimed impact occurred: 1 September 2016 – 31 December 2020

Is this case study continued from a case study submitted in 2014? N

1. Summary of the impact

Dr Simon Hayhoe's research at the University of Bath on sensory impairment (SI) and informal learning since 2016 has benefitted individuals with sensory impairments and led to impact in the following ways:

- **Changes in organisational inclusive practice:** Informing strategic decisions, service developments and improving accessibility at the National Council for the Blind Ireland (NCBI); Generating new ways of thinking about and responding to sensory impairment among cultural practitioners; and informing the development of training and specialist guides used by museum professionals across Europe;
- **Creating new technologies which enhance cultural experience, understanding and engagement for people with sensory impairment in** cultural and heritage sites across Europe including Museo Thyssen-Bornemisza, Museo Lázaro Galdiano and Museo de Bellas Artes de Asturias, Spain; Victoria & Albert Museum, UK and KHM-Museumsverband, Austria.

2. Underpinning research

Museums, art galleries and public art venues offer embodied learning opportunities integral to shaping the experience and consciousness of their participants and visitors. They are crucial, if often unrecognised, informal learning environments. This is particularly the case for people with Sensory Impairment (e.g. deafness, vision loss, learning disability, mobility or invisible disabilities) for whom physical access is often curtailed because of building design and display practices, and whose informal learning in such sites is under-researched.

Dr Hayhoe's body of research since 2000 has focused on developing *philosophical/ theoretical explanations* of the exclusion of people with sensory impairment from sites of informal learning and, from this, how these explanations can be *applied in practice* in interventions which improve access and experience for people with SI.

1. Philosophical, Theoretical and Methodological Contribution

Dr Hayhoe's research at the University of Bath (2016 – 2020) has continued to challenge the dominant philosophical and theoretical conceptualisations of sensory impairment. His research synthesises psychological, social, cultural and medical aspects of disability into an integrated model of informal learning. His research at Bath:

a) proposes the need to recognise visual impairment as a spectrum with different intellectual and cultural needs and preferences (1, 3);
b) demonstrates that visual art is understandable to people born blind, due to a combination of alternative perceptual cues, multi-sensory development, language, and creative thinking (4, 5); and
c) challenges the dominant philosophical theory that colour is only understood through direct visual experience (5).

These philosophical/theoretical insights underpin Dr Hayhoe's model of inclusive capital, which has informed inclusive practice to improve museum access (3). Inclusive capital encompasses dimensions of knowing (knowledge, ethics), being (beliefs, emotions) and doing (skills, practices, habits) and considers how these are shaped via interaction with cultural environments. Practices underpinned by inclusive capital aim to build more inclusive ways of knowing, being and doing to ameliorate the exclusionary conditions people with SI suffer in mainstream society.

Dr Hayhoe's model of inclusive capital, and the inclusive practice it aims to foster, led to the development of a novel methodology – Grounded Methodology – which was embedded into the participatory research approaches and practices of the EU Horizon 2020 project Accessible Resources for Cultural Heritage EcoSystems (ARCHES), 2016–2020, EUR3,838,158 (Hayhoe: PI Bath). ARCHES was one of the largest EU funded projects to focus on disability and access; its aim was to make art and culture accessible for all across Europe. It involved five national and one local museum (see Section 4), four technology companies specialising in inclusion (VRVis, SignTime, Coprix, Tree Logic), two universities (the University of Bath and Open University) and over 200 people with sensory impairments who worked as participatory co-creators with the researchers to develop inclusionary practices.

Dr Hayhoe's 'Grounded Methodology' (GM) (6) approach, elaborated during ARCHES, advances and adapts Grounded Theory (GT) (Glaser & Strauss, 1967), widely used in education. GT relies on inductive testable theories. Grounded Methodology, in contrast, provides a more expansive and flexible research approach which generates interpretive deductive theories that evolve through discourse between research partners and collaborators. Allied with Dr Hayhoe's model of inclusive capital, GM is particularly appropriate for participatory workshops and co-created research designs which evolve as researchers, practitioners and participants work together on objectives and goals. After ARCHES, Dr Hayhoe has applied GM in the participatory arts-based project, River is the Venue (6).

2. Practice

Dr Hayhoe's research has been applied in educational inclusion and diversity practice in two ways. First, through changes to the ways in which informal learning spaces, such as museums and public arts venues, enable access and inclusion for people with SI. Dr Hayhoe's broader conceptualisation of disability inclusion has enhanced practitioners' understanding regarding how artworks can be appreciated by people with SI and shaped practice on how informal learning spaces can better accommodate their diverse needs (1, 2, 6). Second, Dr Hayhoe's research has broadened practitioners' understanding of how people with SI experience informal learning opportunities. This has prompted greater awareness amongst practitioners of the diversity of learning experiences by taking into account relations between bodily experience, movement, technology and sensory perception, as a complement to language, for people with SI (1, 2, 4, 6).

3. References to the research

1. Hayhoe, S 2017, *Blind Visitor Experiences at Art Museums*. Rowman & Littlefield, New York, USA.

2. Hayhoe, S 2018, 'Epistemological Trends in the Literature on Mobile Devices, Mobile Learning, and Learners with Visual Impairments', *Optometry and Vision Science*, vol. 95, no. 9, pp. 889-897. https://doi.org/10.1097/OPX.0000000000001279

3. Hayhoe, S 2019, *Cultural Heritage, Ageing, Disability, and Identity: Practice, and the development of inclusive capital*. Routledge Studies in Cultural Heritage, vol. 1, 1 edn, Routledge, Abbingdon. https://doi.org/10.4324/9781315149462

4. Hayhoe, S 2019, Classical Philosophies on Blindness and Cross-Modal Transfer, 1688-2003. in J Ravenscroft (ed.), *The Routledge Handbook of Visual Impairment: Social and Cultural Research*. Abingdon: Routledge.

5. Hayhoe, S, Cohen, R & Garcia-Carrisoza, H 2019, 'Locke and Hume's Philosophical Theory of Color is Investigated through a Case Study of Esref Armagan, An Artist Born Blind.', *Journal of Blindness Innovation and Research*, vol. 9, no. 1, 3, pp. 0. https://doi.org/10.5241/9-149

6. Hayhoe, S 2020, An Introduction to Grounded Methodology for Emerging Educational Researchers. *Qualitative and Visual Methodologies in Educational Research*, vol. 1, 1 edn, Routledge, Abbingdon.

4. Details of the impact

4.1 Changes in organisational inclusive practice

The National Council for the Blind Ireland (NCBI), Ireland's national sight loss agency, provides support to over 8,000 people every year. Dr Hayhoe's inclusive capital model and grounded methodology approach underpinned recommendations to the NCBI which led to changes in their service provision and training (A). Their National Services Manager comments:

"As a result of the research we have established and developed our Older Adults Team whose role is to consider physical and mental health, multiple impairments, older adults' social needs and end-of-life care. The research allowed us to look at our plans for this group as well as benchmark them against similar sized jurisdictions in Europe and North America. This in turn has led to a confidence in setting our priorities for 2019 and going forward into 2020. The research will also underpin our strategic priorities for 2021-2024. Service gaps and training needs in the staff group have been established and are being addressed" (B).

In 2019 NCBI worked with 12% more older adults than in 2018. In 2020 that number has increased further. Their National Services Manager believes that this growth "*is a direct result of the establishment of the Older Adults Team*" (B).

The Inclusive Capital model has also led to generating new ways of thinking about, and responding to, sensory impairment among cultural practitioners through the ARCHES project. The Former Head of Education at the Wallace Collection (which between April 2018 and March 2019 had 421,700 visits) notes that Dr Hayhoe's research has led to a change in practice among museum staff. The design of the ARCHES participatory group workshops, utilising Dr Hayhoe's "*participatory methodology and model of inclusive capital (habits that lead to inclusion)*" developed participants' confidence via improved 'bonding' (a key component of the inclusive capital model), leading to increased participation in the project's user groups. The participatory [user] groups led to "*significant attitude shifts*" amongst museum practitioners in the Wallace Collection, regarding how they "*engage people with disabilities*". This shift entailed "*focus[ing] on what people's access preferences are rather than their disability*" (C).

These participatory [user] groups also led to further changes within the museums including:
*   Changes to the Wallace Collection's website to improve accessibility leading to changes in colours, contrast levels, fonts sizing and speech recognition (D);

- Improvements "*at the V&A Dundee and the Museum of Childhood, as part of the redesign of galleries*" (H);
- Development of new guidelines on "*exhibition access guidelines*" and discussions on ethics led to creation of "*new Disability Terminology Guidelines*" at the V&A (H);
- Informed development of a sensorially-inclusive tour on KHM-Museumsverband's website (D) and videos on "*access at the Wallace and V&A*" (H).

The Former Head of the Wallace Collection states that Dr Hayhoe's model of inclusive capital also "fed directly into the ARCHES museum guide, *Towards a Participatory Museum: A How-to-Guide on Inclusive Activities"* (2019), and that "*museum practitioners find it very useful*" (C). The guide (I) was published in English, German and Spanish and by February 2021 it had been downloaded from the ARCHES website nearly 1,000 times (G).

Between 2017 and 2019 ARCHES workshops using aspects of inclusive capital approaches to participatory practice were rolled out across France, Germany, Italy, Spain, Slovenia and Croatia, providing training to more than 200 museum professionals. 600 printed copies of the Museum guide were distributed at these events (G).

4.2 Creating new technologies which enhance cultural experience, understanding and engagement for people with sensory impairment

The technological outputs of the ARCHES project were developed using a novel participatory research approach informed by Dr Hayhoe's grounded methodology. The project developed several technological solutions including an interactive computer station using tactile reliefs as well as multisensory and fully accessibility features. This computer station is called "Please Touch!" and was developed as an on-site installation for the 6 participating museums: Museo Thyssen-Bornemisza, Museo Lázaro Galdiano, Museo de Bellas Artes de Asturias, Victoria & Albert Museum, The Wallace Collection and KHM-Museumsverband. A further 9 reliefs have been ordered for other museums. *Please Touch!* won the Heritage in Motion award for apps and interactivity in 2020, commended by judges as "*empowering, creative and exemplary*" (E).
The project also led to the development of apps that guide visitors, through ARCHES partner museums, that are available in English, German and Spanish on Google Play and the Apple Store (F).

These changes in organisational practices and novel technological applications have produced clear and demonstrable benefits **for individuals with sensory impairment.** They have led to profound changes in the informal learning of individuals with SI and they attest to the importance of being listened to. A member of the ARCHES participatory groups asserted that "*It's important to allow us, the disabled people, to explain what we need because … people [who are not disabled] cannot imagine that*"; another fed back that the project was "*absolutely fantastic*" because "*everybody needs to be able to go to other museums and not worry about being able to understand what's going on there*" (G).

The former Head of Education at the Wallace collection affirmed that "*the practices of participatory methodology and model of inclusive capital (habits that lead to inclusion) that you [Hayhoe] developed as part of the ARCHES, and in co-creation with the members of the participatory Group, underpinned the growing confidence of participants with disabilities*" (C). The Equality and Access Advisor at the Victoria and Albert (V&A) Museum also noted how Dr Hayhoe enabled participants to "*try something new*" and "*creating artworks and even help[ing] in other museums*" (H). 16 ARCHES participants went on to gain awards, training and jobs in the field of cultural heritage (G).

Since then, the ARCHES project has been nominated as 1 of 10 finalists for the Horizon 2020 impact award (J).

5. Sources to corroborate the impact

A) Report on Current and Future Older Adult Services for People with Sight Loss in Ireland: Report for the National Council for the Blind of Ireland, 2019.

B) Testimonial letter from the National Services Manager of NCBI North, 30 November 2020.

C) Testimonial letter from the former Head of Education, Wallace Collection, 25 November 2020.

D) Screenshot of Tweet from London ARCHES on changes to Wallace Collection's website. Screenshot of video developed for KHM-Museumsverband's website, 20 June 2020 [available on request].

E) Heritage in Motion Awards 2020 website, accessed 20 January 2021.
https://heritageinmotion.eu/himedition/submissions-2020

F) ARCHES apps on Google Play Store, accessed 20 January 2021.
- Kunst Historisches Museum app -
  https://play.google.com/store/apps/details?id=com.coprix.archesKHM
- Museo Lazaro Galdiano app -
  https://play.google.com/store/apps/details?id=com.coprix.archesMLG
- Museo Thyssen-Bornemisza app -
  https://play.google.com/store/apps/details?id=com.coprix.archesTB
- The Wallace Collection app -
  https://play.google.com/store/apps/details?id=com.coprix.archesTWC

G) Collated evidence relating to ARCHES:

- EU ARCHES website homepage including transcription of the video, What Is ARCHES, accessed 20 January 2021.
  https://www.arches-project.eu/
- Email from ARCHES Communications Manager, 9 February 2021, confirming the download numbers of the guide, Towards a Participatory Museum from this page of the website.
- Accessible Resources for Cultural Heritage EcoSystems: Recommendations, Guidelines & Policy Briefing Hayhoe,S., & Garcia Carrisoza, H. (2019).
  https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5cbfdae0f&appId=PPGMS

H) Testimonial e-mail from Equality and Access Advisor Victoria and Albert Museum 18 November 2020.

I) Towards a Participatory Museum: A How-to-Guide on Inclusive Activities, 2019.

J) Horizon 2020 Impact Award web page, accessed 20 January 2021. https://www.arches-project.eu/news/arches-is-one-of-the-10-finalists-of-the-horizon-impact-award/