

# Museums making a demonstrable positive impact in the fields of education and employability

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## Introduction

This literature review aims to give an overview of how museums make a demonstrable positive impact in the fields of education and employability. It considers the current state of research around impact in these fields, provides a summary of existing evidence, and highlights high-level examples of good practice across the UK as well as wider abroad. Commissioned by Museums Galleries Scotland, this review hopes to offer insights and tools to support staff at museums and galleries in Scotland with increasing and evidencing the impact of their own programmes on education and employability for their audiences and constituencies. Most of all, it aims to help them make a case for the importance of their work for the education and employability fields across Scotland.

The question of museums' impact on education and employability sits within a wider body of literature around museums' values and social impact more generally. This field covers questions around the purposes of arts organisations, the ways they interact with their audiences and beneficiaries, and the types of contributions cultural institutions can make to people's lives, their wellbeing and to society. Scott (2006; 2009) has done extensive research in this area and highlighted many complexities and debates within the field. A selection of the impacts she has found relate to the theme of this literature review: she states that museums can provide "a unique type of learning experience" (2006, p. 56), that museum learning can "develop personal knowledge and skills" (ibid., p. 57), that museums "provide employment" (ibid., p. 58) and that they can "support the education system" (ibid., p. 62). Using these four forms of impact as a starting point, the list was expanded with additional impact types that emerged from the 76 pieces of literature reviewed. These covered a wide range of readings relating to schools, education, learning, skills development, employability, and professional development, which seemed to be the main thematic areas coming up in literature on education and employability.

Across the literature about the impact of arts engagement on education and employability many high-profile studies give evidence of the benefits of theatre, music and dance activities, as well as the impact of engaging in formal arts education. However, the body of work that specifically focuses on museums and galleries is much smaller. Besides, evidence of the role that museums can play for improving education and employment is quite unevenly distributed between the different thematic areas of impact. For instance, much attention is given to the ways in which museums can help enrich the school curriculum, but questions around learning programmes for adults or the impact of museums on unemployment are particularly under-researched. Finally, the literature shows a focus on impact types of which the evidence is measurable, for instance in money or through school grades, but sometimes struggles to defend the impact on more intangible benefits, such as personal learning, the development of new perspectives and the experience of linking with the past (Scott, 2006). Scott, however, argues that it is often those “intangibles” (2006, p. 70) that create the most important impact.

This literature review will start off with a short overview of the definitions used around ‘education’, ‘employability’ and ‘impact’, to give a context for the angle that was taken. It then looks at the debates around measuring impact, to highlight the difficulties of interpreting certain types of data. From there it dives into the existing literature, highlighting recurring themes and types of museum programmes that show evidence of impacting education and employability. It ends with a summary and a full reference list of all 76 sources used.

## **Definitions**

Before reviewing how education and employability might be impacted, it is important to make clear what is meant by those terms and what types of processes or institutions might create these types of impact. The sections below will highlight the definitions this literature review has worked with, which should be added, might only be one view chosen of the many valid and relevant definitions that make up the field.

### ***Education***

‘Education’ is not the same as ‘learning’, nor does it plainly mean ‘schooling’. Education is generally used to describe the cultivation of an environment that brings out and develops potential, generally by offering an opportunity to learn (Smith, 2015). Learning could be described as both a cognitive process and an outcome that shapes new understanding through acquiring knowledge or skills (ibid.). The activity of learning is often associated with behavioural change and a change in appreciation of the topic studied (Paddon et al., 2013).

Learning can happen in formal and informal settings, with ‘schooling’ describing most formal learning settings. Learning can also happen at any age, with later learning – usually referred to as ‘adult learning’ or ‘lifelong learning’ – generally

happening in more informal settings. Research on formal learning in schools has often taken priority over research on lifelong learning, and as a result the latter often builds on theories originally conceptualised for young learners (Paddon et al., 2013). However, informal learning is gaining in importance across the research field and there is a growing interest in seeing learning as a societal process that happens in public and civic spaces. Sandlin et al. (2010) call this type of learning 'public pedagogy'. This term covers the "processes, types and sites of education and learning that occur outside formal educational institutions" (Grenier & Hafsteinsson, 2016, p. 143) and describes the museum as a reflective space, rather than one that imposes meaning on learners.

### ***Employability***

A definition of employability was proposed by Yorke (2006) and found approval with the Enhancing Student Employability Co-ordination Team (ESECT), which leads the promotion of the employability agenda in UK higher education. The definition sees employability as "a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations" (Yorke, 2006, p. 12). Alongside using it, the ESECT warns that 'employability' is not the same as 'employment'. Employability implies the potential to find a 'graduate job' at the right education or skill level, not just any employment (Purcell & Elias, 2002). Moreover, measuring employment is most meaningful if it considers whether that employment is maintained or if after leaving the job a new job is found without difficulty (Hillage & Pollard, 1998). As not all definitions of employment make these distinctions, it is important to acknowledge that data can be misrepresented and outcomes skewed, depending on the definition used.

### ***Impact***

Throughout the literature looking at museums and social value, the term 'impact' is also used with a variety of different definitions. Stanziola (2008) argues there are so many different understandings of impact because between the different studies there is not always a common language, or consensus over whom are the benefactors of certain impact, or an overview of which impact models to choose for which specific application. Moreover, the different ways in which impact can be measured might bring up more difficulties than the definition of impact itself. The section below will give an overview of those considerations, which are important to keep in mind when evaluating research about impact or value.

## **Methodologies for measuring impact**

Measuring the impact of museums, or any cultural experience, often poses problems. In a practical sense, for many museums rigorously measuring what impact their programmes have on the wellbeing, development or education of visitors is a resource-intensive exercise, and Downey et al. (2007) mention that

funds for such studies are often not available to museums. But also more conceptually, measuring impact can be difficult because impact can take a wide variety of forms and most of them are hard to define or quantify. As a result, there are only a few studies that propose rigorous methodologies for measuring the impact of arts engagement, and even fewer about impacts on education and employability specifically. The ones that exist often use standardised school tests and grades as a measure of impact (Heckman & Rubenstein, 2001), leaving out any improvement in less tangible social, interpersonal, critical thinking or problem-solving skills. Besides, policy-makers in arts and culture fields often prefer quantifiable, data-driven evidence to support their arguments. This could put arts engagement or visits to museums at risk of not being seen as valuable methods for learning or increasing employability, while in fact the issue might lie instead with the limitations of demonstrating that value (Gasden, 2008). Therefore, in addition to needing more evidence of museums' impact on education and employability, there is also a need for developing better methodologies to record and highlight that evidence (Kisida et al., 2016).

Only looking for concrete, quantifiable data about the impact of education often results in finding evidence of cognitive learning outcomes only, and fails to acknowledge a whole range of other, more intangible, learning outcomes. Already in 1986, Koran and Koran suggested that when measuring educational impact, one should also look for the development of "curiosity, psychomotor development, interest, appreciation, motivation, and generalisation" (p. 16) in addition to traditional academic learning. In 2004 Hooper-Greenhill proposed a more structured set of five Generic Learning Outcomes that museums (as well as archives and libraries) might provide, which soon became an industry standard. Her five learning outcome categories were as follows:

- "increase in knowledge and understanding;
  - increase in skills;
  - change in attitudes or values;
  - enjoyment, inspiration, creativity;
  - action, behaviour, progression"
- (Hooper-Greenhill, 2004, p. 163)

Her aim was to provide a common framework that each museum and gallery could use to measure their learning activity against. The UK Government adapted and extended her list of learning outcomes to describe slightly more exact outcomes that engaging with art might bring. Their list consists of:

- "academic achievement/skills (as measured by [...] test scores);
- transferable skills (e.g. interpersonal, communication, or social competency skills);
- cognitive abilities;
- truancy rates or behaviour problems;
- personal development;
- cultural knowledge;
- attitude to learning;
- capacity or capability to learn or develop;
- curiosity;

- motivation for learning;
  - creativity”
- (DCMS, 2010a, p. 12-13).

However, while these frameworks offer guidance on what elements to measure, they do not outline how to measure them.

Based on the reviewed literature, most museums seem to rely on writing case studies of successful projects as their methodology to evidence impact, which can then be used to advocate for future projects that have similar characteristics. Another solution could be to conduct a ‘social return on investment’ (SROI) analysis. SROI is a framework of principles to help museums and cultural organisations to determine the level of social value their work might create, which is often measured through a combination of qualitative and quantitative methods (Nicholls et al., 2012; Whelan, 2015). It shows similarities with a case study approach, but this analysis allows space for researching impact more widely, for example across different sectors or at government level (Whelan, 2015). With both of these approaches it is important to be aware of the distinction between two general types of impact: *instrumental* impact is achieved when the museum is put to use for a certain purpose (e.g. an outreach programme), while *value-based* impact is inherent to the museum and it achieves it by merely existing as an institution (e.g. providing a public space in which to see art) (Scott, 2009).

Besides questions around what impact to measure and how to measure it, the social impact of museums might also depend on how people interact with them. For instance, Martin et al. (2013), who looked at arts engagement in different types of arts disciplines, stated that audiences might engage with arts in very different ways, including:

- arts attendance,
  - active arts participation,
  - parent-child arts interaction (e.g. discussions about art),
  - home-based resources (e.g. having art materials at home),
  - school or external arts tuition,
  - and arts engagement (which they define as to what extent people felt involved with arts)
- (Martin et al., 2013)

They found that different types of engagement also resulted in different levels of impact. They saw that the performance in and outside school of the participating students went up as a result of arts engagement overall, but within that spectrum active arts participation was more impactful than mere attendance of arts events (Martin et al., 2013).

When reviewing literature about the impact of museums, it is therefore important to consider the type of impact studied, the way in which it is measured, and in what way the research subjects have engaged with the programme that has caused the impact result. It is also important to acknowledge that types and quantities of impact might be specific to the unique context and characteristics of each individual project.

## Education

That engagement with art and culture is very beneficial for knowledge and skills development, especially in children and young people, has been shown by many studies across a wide range of different cultural fields. For instance, following arts and music courses at school has been linked to achieving higher grades in other school subjects, like maths, science and reading (Yang, 2015; Winsler et al., 2019; Guhn et al., 2020) and studying art has proven to be a good way to train the mind in observing, reflecting, envisioning, stretching, exploring, engaging and persisting (Hetland et al., 2007), thus offering support with key competencies for both academic and non-academic success. Engaging with arts can also support social cohesion, cooperation and pro-social attitudes, Schellenberg et al. (2015) found in a study done with children in Canada. A Hong Kong study found that studying art improved creativity and communication skills (Hui et al., 2015), and Martin et al. (2013) in Australia found that arts engagement was linked to an increase in self-esteem, life satisfaction, motivation and engagement. It can also increase tolerance and historical empathy (Greene et al., 2014).

The major Culture and Sport Evidence (CASE) research programme run by the UK Government until 2012 used quantitative data to show that engagement with the arts can improve young people's cognitive skills by 16% to 19% and transferable skills by 10% to 17% (DCMS, 2010b). About attendance of museums and galleries specifically, it concluded that there was visible improvement of student learning in the measured population of 4-16 year-olds, although further research was needed to give quantifiable measures to this "promising" outcome (ibid., p. 28).

Specific themes came up repeatedly throughout the literature on how museums impact on education and learning. They are outlined in each subsection below, and show how museums can help to develop certain skills in people, as well as provide programmes that can strengthen existing education processes.

### ***The museum as a space for training critical thinking skills***

Across the literature, critical thinking skills come up repeatedly as one of the main skills that are trained through engaging with arts. A major piece of evidence for this in museums is a study that the Guggenheim Museum in New York did between 2003 and 2006, in which they measured the impact of their Learning Through Art programme. This programme involved collaborations between their artists-in-residence and local primary schools. The evaluation found that through the artist-run programme of school-based workshops and museum visits, the children significantly improved their interpretation and critical-thinking skills, not just when looking at visual art, but also when considering text (Downey et al., 2007). An important factor for the success of this project was the guided inquiry process used, which involved asking the children open questions, and the opportunity for them to get involved in hands-on arts making (ibid.). What also enabled their success was the fact that the museum could shape and refine the project over a full year, which they admitted was a rather rare, generous timeline, compared to similar projects elsewhere in the museum sector (ibid.).

However, similar results were found by smaller research projects. Luke et al. (2007) developed a methodology that measured how arts engagement might impact on critical thinking by measuring seven individual critical thinking skills: observation, interpretation, evaluation, association, problem finding, comparison and flexible thinking. Using this methodology, researchers found that students participating in art museum programmes improved not only their critical thinking skills, but also their writing skills (Desantis, 2009), and that the improvement was especially noticeable in pupils from disadvantaged backgrounds who did not often visit museums otherwise (Bowen et al., 2014). Likewise, Kisida et al. (2016) found that disadvantaged students reap greater benefits from visiting museums, as their opportunities for arts engagement outside of public education are often more limited.

Approaching critical thinking skills more generally, Soudien (2006) argues that museums facilitating critical education can train skills like empathy and self-awareness to foster learning about one's own place in society. Using the District Six museum of South African history in Cape Town as a case study, he suggests that museums can improve personal and social education by "help[ing] the museum visitor move beyond empathy to a point where he or she is able to reflect critically, not only on the social space in which he or she might be, but on his or her own relationship to that space. [...] and his or her own responsibilities in relation to [its] community and its choices" (Soudien, 2006, p. 11). Soudien suggests that museums can play an important role in educating a type of critical thinking that benefits and nuances social norms and values as well as ethical thinking.

Finally, Tamashiro & Furnari (2015) look at training critical thinking in peace museums. They suggest museums can help to encourage "questioning and inviting dialogue and critique of museums' exhibits, interpretations, and narratives" (p. 231). They do warn, however, that museums aiming to educate critical thinking skills should "make their own objectives, ideologies and purposes transparent, explicit and invite critique, debate, and dialogue about their viewpoints and presentations" (ibid.) to ensure that alternative voices and interpretations do not get suppressed.

### ***The museum as a classroom***

In research, the fields of museums and education most frequently come together in the shape of studies about schools undertaking excursions to museums. Indeed, such visits have proven to add much to the school curriculum and to facilitate the way children learn.

In 2011 the West Midlands Hub Education Group commissioned an evaluation of the impact of school visits to museums on learning and attainment. Using Hooper-Greenhill's (2004) five-point Generic Learning Outcomes framework, they concluded that students from the four schools participating in the research experienced the following benefits: a more positive attitude towards visiting a museum; an experience of stories coming to life through engagement with objects; a deep engagement that left lasting memories in the children even a year after the visit; and a positive attitude towards visiting a museum again in the future (West Midlands Hub Education Group, 2011). They also confirmed existing expectations

that school visits to museums are most effective and most positively experienced when the programme is well-structured (Orion & Hoffstein, 1994), when their learning is supported by pre- or post-visit sessions or materials (Anderson & Lucas, 1997; Anderson et al., 2000) and when the programme contains (inter)active elements (West Midlands Hub Education Group, 2011). Other research has found that additionally, children benefit more from a museum visit when they are more familiar with the setting (Anderson & Lucas, 1997), and when they can discuss their experiences with peers and adults during the trip (DeWitt & Hohenstein, 2010).

In the case of the *My Primary School is at the Museum* project (King's College London, 2016), the concept of a school visit was scaled up to basing all classes at a museum for two to five weeks. The pilot project, which ran in 2016, tested if there were benefits for both the school groups and museums involved when a significant portion of learning took place in a museum setting. Three case studies in Liverpool, Swansea, and Tyne and Wear found that the children developed increased confidence and improved social and communication skills, while the teachers became more confident about finding creative ways to deliver the curriculum using non-traditional spaces (ibid.). The museum, in turn, gained a deeper understanding of the needs of teachers and younger audiences (ibid.).

A similar principle might be valid for how universities can partner with museums to provide education collaboratively. The Middlesbrough Institute of Modern Art (MIMA), which has a history of providing services to support local social issues such as housing, healthcare, schools and education through its programmes (Abse Gogarty, 2017), merged with Teesside University in 2014, to set up the MIMA School of Art and Design at the university. This new model of art school gives students the opportunity to learn in the professional environment of a gallery, where they have access to artists, museum staff as well as academic staff, and can contribute to the shaping of the gallery (Teesside University, 2014). One of the most important types of impact such collaborative practice-based learning models can have, according to Salazar-Portio (2015) from the Smithsonian Institute, is to create a space for developing critical thinking skills and to develop personal civic engagement. She also argues that there is a natural potential for collaboration between museums and higher education institutions, because they are both part of the same ecology of arts and humanities learning and practice (ibid.).

Finally, evaluations of the Creative Partnerships programme, which was set up across the UK by the Department for Culture, Media and Sports and ran between 2002 and 2011, clearly show the positive effects of setting up creative partnerships between museums and schools. Bringing creative professionals into schools and schools into museums, they saw a rise in literacy, numeracy, and digital literacy, as well as in creative, personal and social skills among students (Ofsted, 2006). The programme brought benefits for teachers too, with 76% of the 2,295 teachers surveyed in a 2010 evaluation saying that they had more enthusiasm for their jobs as a direct result of being involved in Creative Partnerships activities (CLA, 2017b).

### ***Museum objects as educational tools***

Not all learning with museums happens in museums. In a study that looks at the impact of museum collaborations in health and wellbeing settings, Paddon et al. (2013) have found that viewing and handling museum objects can have a great effect on people, in their case hospital patients. They suggest that learning can be facilitated by working with museum objects, because the material, physical and sensory aspects of them might trigger personal memories, associations and emotions that could support a deeper level of processing and meaning-making (Paddon et al., 2013; Dudley, 2010). Testing object-handling activities from a travelling object boxes programme run by the Open Museum team in Glasgow, Dodd et al. (2002) also show that these activities significantly increase tangible learning, such as improved examination grades, written and practical work, as well as intangible learning, for instance increasing levels of interest and motivation.

The positive effects of object-handling in learning have also been seen in experiments with those who usually struggle more with learning, for instance with dementia patients (Camic et al., 2017). When working with objects from the Tunbridge Wells Museum in Kent, one of the participants said: “Even though I’m 82, I am still interested in learning. I might not remember it tomorrow, but I do remember the experience and that makes me feel really good” (ibid. p. 7). Similarly, the Lubbock Lake National Historic Landmark site in Texas developed a ‘Travelling Trunk’ with sensory objects specifically tailored for children with a disability, ranging from blindness to autism. Cho and Jolley (2016) show that the programme provided access for these children to impactful education and to reaching their own full learning potential.

Moreover, object-handling can be very beneficial in training professionals, including teacher candidates (Clark et al., 2016; Seeger et al., 2016). The use of educational museum trunks with objects from the Kansas Museum of History in a teacher-training programme in the United States offered the candidates an opportunity to practice a new way of learning through objects. They agreed that this alternative teaching method would “trigger interest [in students] that textbooks are incapable of” and “inspire students to show what they have learned” (Seeger et al., 2016).

The examples above show that museum objects can enable impactful learning with many different groups and in many different contexts. What it also offers above other methods is that the objects can be taken out of the museum and into schools, hospitals or other public places, to extend the impact on education much beyond the walls of the museum.

### ***Educational interventions in other museum practices***

While the above approaches are concrete examples of how museums might facilitate learning or support education programmes to be as impactful as possible, smaller adjustments or interventions made in existing programmes could also increase learning outcomes and impact education.

There is a growing interest on the effect of using digital technologies in education projects at museums. While using digital interpretation might not always change the nature of a museum education programme, it could have a strong impact on its effectiveness. For example, in an experiment held at the Taipei Fine Arts Museum,

visitors using augmented reality tours on iPad tablets spent more time with artworks and as a result they retained more information about them (Chang et al., 2014).

Similarly, there is much evidence to show that video games, including the ‘serious games’ genre that applies games to teaching and learning rather than entertainment, have a positive impact on education (Gee, 2003; Annetta et al., 2006; Cheng et al., 2011). Gee (2003) argues how games can offer a unique way of interactive learning that is not possible in most classroom settings, which is not just about learning isolated facts, but offers the possibility to connect and manipulate them. Museums have made ample use of these methods. For instance, the North Carolina Museum of Life in the United States created a prototype game exhibit, which let users virtually drive a car while under influence, to teach them about the effects of certain drugs on the brain. They found that in their 175 participants it significantly increased their knowledge of the effects of the drugs after playing the game (Cheng et al., 2011). This, they concluded, was due to offering an interactive way of learning, but also because the nature of the game increased the participants’ attention span and dwelling time for the exhibit (ibid.).

But digital approaches are not the only way in which museums might increase their educational impact. Co-creative exhibition making is another successful approach and is becoming more and more popular (Black, 2005; Simon, 2010). It describes a way of working closely with community members to tell their stories and helps museums to find more accurate and powerful ways to share information and deepen the knowledge of audiences and of those communities (Dodd et al., 2002; Simon, 2010). Alternatively, creating exhibitions in libraries or community venues might increase the access to these shows and can increase their educational impact by reaching a wider audience (Dodd et al., 2002).

While these approaches are not necessarily educational methods in themselves, they can effectively increase the impact of existing learning projects when combined together. Research into these approaches and their specific value for education is often lacking, because many reports choose to study concrete, contained, educational projects, such as an object-handling boxes programme. This highlights an issue to do with research methods rather than a lack of impact in more interdisciplinary or less defined projects (ibid.).

## **Employability**

In 2017 the Cultural Learning Alliance published a major survey looking at the instrumental outcomes of cultural learning. It used a wide range of large-sample data sets and found that the “employability of students who study arts subjects is higher and they are more likely to stay in employment” (CLA, 2017a, p. 1). Another key finding was that “students from low-income families who take part in arts activities at school are three times more likely to get a degree” (ibid.). While these statements evidence that learning about art and culture has an impact on employability, the report also states that cultural organisations such as museums might play an essential role in that learning process (ibid.).

How this may be done is explained by a research project commissioned by the Museums, Libraries and Archives Council, which surveyed a set of major social impact studies and found significant evidence that museums had impact on people's personal development, for instance through the acquisition of new skills, increased confidence, and by providing support for educational courses (Wavell et al., 2002). They also found data that implied museums could help communities with building skills, capacity and with tackling unemployment (ibid.). This might be explained by evidence that museums can contribute to the development of creative communities and the economic success of a region (Plaza, 1999; Plaza, 2008; Iorio, 2011).

Across the literature, museums have indeed been linked to increases in employability. Sometimes museums create this impact by offering training or exposure to certain knowledge and skills, and other times this is an effect of targeting specific marginalised groups to give them an entry point into employment. The following subsections will look at three types of opportunities that museums offer to their audiences to help increase employability: transferable skills development, internships and traineeships, and volunteering programmes.

### ***Building skills for employment***

General skills development, which might happen during any process of learning, does not necessarily contribute to getting a job. The skills that are necessary for work can be much more specific and need to be transferable to a professional setting. Bennett et al. (2000) describe these 'transferable skills' as consisting of disciplinary content, disciplinary skills, workplace experience, workplace awareness, and generic skills. Together, they form a model that shapes employability. Arts and culture have proven to be an effective way for developing these types of skills.

For instance, Hughes & Wilson (2004) describe how for young people engaging in youth theatre is a way to develop skills that prepare them for employment, such as the ability to use their own initiative, to take risks, to take part in a work-like and committed process, to explore and express feelings, and to use a creative process for improving personal skills. Similar outcomes were found in the museum sector through the major Circuit project, which developed young people's involvement and employability through a programme with ten galleries across the UK, led by Tate. The longitudinal evaluation of the programme looked at how young people used the creative activities and opportunities in the Circuit programme to build their skills, networks and cultural capital to develop a better entry point into working in the arts, whether as an artist, curator or creative professional (Coles & Thomson, 2017). The research showed that the Circuit project was effective for supporting the young people to develop their career and highlighted the different trajectories taken, which depended on the young people's backgrounds, including their family's financial resources and knowledge (ibid.). The evaluation also covered learning for museums about how to better adapt to the needs of the young people (ibid.).

In literature from more recent years, a specific set of transferable skills comes up more often. The Cultural Learning Alliance (2017b), for example, describes how the arts bring educational value to young learners by engaging the children's

imagination, which in turn will help them develop “the character traits, values, and skills that society needs – resilience, creativity, empathy, and an entrepreneurial spirit” (CLA, 2017b, p. 13). This entrepreneurial thinking skill is also prioritised by Wilson et al. (2017), who similarly refer to the parallels between creative engagement and entrepreneurial thinking and believe that creative learning should play a bigger role in education to support students in developing more employable traits. They propose that cultural organisations could support and nurture the development of that creativity in children and young people (ibid.). The Cultural Learning Alliance similarly describe cultural organisations including art galleries as “essential” spaces for learning, calling arts education “as essential as numeracy and literacy in equipping children with the skills for life” (CLA, 2017b, p. 13).

### ***An insight into museum work***

A study in Los Angeles in 2003 set up an experiment for academically gifted primary school children to attend a science programme at a local museum, in which they offered activities inspired by the work of museum scientists (Melber, 2003). Before and after the programme, they asked the children about their attitude towards science professions. They found that they had a better understanding of what it is a scientist does and that they looked more positively towards science careers (ibid.). While primary school age is quite young to start thinking about employability, it does show how museums can offer an insight into different professions and open up new career paths for young people.

For secondary school and university students, museums might provide real insight into different potential careers and the considerations around them. Already in 1985 Bonner described how museums are not just a useful resource for teaching, but also an ideal site for internships and university training programmes. Since then, internships and other extra-curricular training activities have been found to form an integral and much valued way to develop new skills and increase employability, to the level that they have become seen as an essential part of student life (Hordósy & Clark, 2018). But recent research on the value of internships at museums or the connections they make with universities and professional training organisations is rather minimal, especially compared to the large numbers of studies focusing on the role of museum resources in primary and secondary education.

However, there are a few examples. Research into the Open Museum programme in Glasgow offers some evidence from participants involved in internships, who said that their work for the Open Museum had not only opened up their horizons and given them the motivation to seek new professional opportunities, but also given them the confidence to “exceed their own expectations of themselves” in following up these desires (Dodd et al., 2002, p. 26). Similarly, a collaboration between the Center for Cultural Technology in New Mexico and New Mexico Highlands University in the US developed a paid internship programme for students to learn about technology in a museum environment, which has been running since 2005. They compared the employability of their internship participants and found that previous interns had a significantly higher chance (76%) to find employment or get into a graduate school than students from the same programme who did not participate in the internship programme (35%) (Addario & Langer, 2016).

Museums sometimes provide professional training to specific profession groups too. As was highlighted in an earlier subsection of this review, museum objects are used to train future teachers and give them tools to use non-traditional classroom environments for learning (Clark et al., 2016; Seeger et al., 2016). In Chicago they did this through a partnership between six local museums, which was set up to show teacher candidates the versatility of museum education resources and help them with strategies for using them (Clark et al., 2016). This does not only increase the impact of any future museum visits, but might also work as a model for partnership working between learning institutions and museums (ibid.). Another example of working with a specific target group is the Scottish Maritime Museum, which runs the Scottish Boat Building School. They teach trainees – some of whom are young offenders, long-term unemployed or facing other personal challenges – woodworking skills that support their conservation work, which the trainees can also take into future jobs. Director David Mann explains the success by highlighting that “museums are ideally placed to connect to the audiences that may not engage with other organisations” (Museums Association, 2017, p. 11).

Finally, museums in many ways have an impact on the employability of workers in their own sector too. By offering training to employees they can help them prepare the skills that today’s museum sector needs, such as digital skills, an understanding of the principles of outreach and public engagement, the ability to take a problem-solving approach, flexibility to manage project-based working, interdisciplinary thinking and a willingness to take on responsibility (Gainon-Court & Vuillaume, 2016). These skills might be trained through schemes such as Museums Galleries Scotland’s Internship Programme, which ran from 2011 to 2014, and showed that in 2015 90% of their first and 60% of their second cohort were already in related employment (Hutchison & Cartmell, 2016).

### ***Gaining skills by donating time***

Museums do not only offer employment or professional training, they also often offer opportunities for volunteering, which might involve important skills-building components. A study on volunteering in three museums in Auckland, New Zealand, found that the reasons volunteers mentioned for taking part included that their work would contribute positively to their CV, that their volunteering work would help them succeed in their chosen profession, and that volunteering at the museum would help them make new contacts that would help their career (Chen et al., 2019). However, compared to other reasons, career motivations were less important than wanting to contribute value, gaining new knowledge and skills, escaping from daily life, and feeling a sense of satisfaction or achievement (ibid.). The ranking of these motivations might change depending on the demographic spread of the volunteer sample, as different volunteer groups have different needs. That is why some volunteering projects target specific social groups, giving the programmes a social responsibility element in exchange for receiving free labour hours from the volunteers.

An example is Norwich Castle, which has run an engagement scheme with the Norfolk Youth Offending Team since 2004. The aim is to help young offenders develop team working and social skills and to build their confidence through arts

workshops. According to the museum, “displaying their work helps to raise the self-esteem of the young people and seeing key adults respond positively to their work is an immensely affirming experience” (Museums Association, 2017, p. 23). Similarly, Poole Museum invites local volunteers – some of whom are experiencing isolation or mental health problems – to join their Culture Volunteers Poole programme to gain experience, confidence and new skills. They confirm that many of their volunteers move on to regular and full-time employment afterwards and are aiming to expand the programme through a social prescription scheme (Museums Association, 2017). The Multaka Oxford project, run by the History of Science Museum and Pitt Rivers Museum in Oxford, is another example. They specifically target communities from the Middle East – many of them refugees – to build intercultural dialogue and foster a two-way integration process through doing volunteer work around the Islamic and Arab collections (Bird, 2016). Alongside curation workshops and public events, their programme also includes English classes and networking opportunities with refugee charities (ibid.).

Sometimes museum volunteering programmes can be seen as creating a specific community of practice, which Wenger (2006) describes as “a group of people who share a concern or passion for something they do and then learn to do it better as they interact regularly” (p. 1). Such communities can serve as a centre of knowledge creation, where members can learn from each other and develop the practice in their field through their work at the museum. An example is the volunteer-run Mudgeeraba Light Horse Museum in Australia, which worked with secondary school students to develop new practice around digital storytelling (Hanley et al., 2018). They did not only find that the individual volunteers were learning about working with tablets and with students, but also that there was a collaborative learning process across the group around student and digital engagement that helped the development of the project and museum more widely (ibid.).

Employability is not a concern of every volunteer group, however. Museum volunteering schemes often attract retirees and elderly people who do not intend to look for work afterwards. However, that does not mean that they are not interested in learning new skills. Volunteer schemes offer a great variety of lifelong learning opportunities, even if the participants sometimes do not see it as learning, due to it often being informal and practice-based (Dahl, 2018). However, as Dahl (ibid.) concludes about a volunteer project with a maritime museum in Norway, the volunteering retirees they involved had gone from being former shipmasters and engineers to becoming educators with new responsibilities, going through a professional learning process nevertheless.

## **Summary and conclusions**

This literature review shows that there are many ways in which museums and galleries can make a positive impact on the fields of education and learning.

### ***Education***

Both governmental and independent research has shown that engagement with arts improves academic and non-academic skills in learners. Researchers have evaluated many specific projects in which museums and galleries aim to support learning, both in formal education environments like schools, and more informal learning settings, often involving adult learners. These projects often fall into one (or more) of four categories:

- *Projects in which museums help learners to improve their critical thinking skills.* The effect of these projects on disadvantaged learners who do not usually engage with museums much is particularly strong. Improved critical thinking skills might lead to more nuanced public discussions and ethical thinking, although researchers warn that museums should be careful to make their own role transparent in those discussions.
- *Projects that draw school groups into the museum to conduct education in the setting of the gallery.* These projects did not only provide teachers with new, non-traditional teaching methods and their students with an increased appetite for learning, but they also allowed museums and schools to learn from each other and adapt better to each other's needs.
- *Projects that use object-handling activities, including through travelling trunks.* The impacts of these are twofold: they provide learners with a multi-sensory and often highly effective way of learning, but they also provide museums with the opportunity to take their resources out of their gallery spaces and increase the access to their materials and stories.
- *Interventions in working practices across wider museum departments.* The use of digital technology, including video games, in exhibitions can impact learning outcomes effectively, and co-creating programmes with communities can similarly increase the reach and impact of this work. However, research into wider working practices – as opposed to studying clearly defined and often one-off projects – has been largely lacking.

## ***Employability***

Research has shown that cultural engagement, including engagement with museums, helps people to develop skills, confidence and development opportunities, which increase their employability. Cultural organisations also contribute to forming stronger communities and more successful economic environments, which increase opportunities for employment. Across the body of research three types of approaches come up most prominently:

- *Museums offering transferable skills development.* Museums can offer opportunities to young people to develop their confidence for future professional engagement, but also to train essential employment skills. Supporting skills around entrepreneurial thinking, as well as creativity, resilience, and empathy has been highlighted as particularly important for increasing employability today.
- *Museums offering internships and traineeships.* Museums can give a good insight into specific professions both through their public programmes and by letting people join in on their work through training programmes. Research shows that museum interns and trainees have better chances of

finding work or getting into further education, and that these programmes often successfully engage specific professional or social target groups.

- *Museums offering learning through volunteering opportunities.* Volunteer programmes have shown to be effective for offering specific – sometimes disadvantaged – target groups a way to develop their skills, confidence or social integration and thereby their employability. It also offers an informal learning environment, with many volunteers not necessarily thinking about their work as employment training.

### ***Considerations for future approaches and research***

This review shows many examples of when museums have successfully impacted education and employability, however it also highlights that the definitions and methodologies used for evidencing that impact should be carefully scrutinised when interpreting the outcomes, as they can influence them considerably. Moreover, while the review lists some highly effective approaches that museums have taken, these examples should be considered within the specific contexts of the museums involved and might not be directly replicable in other organisations.

The review also highlights that the quantity of research done on impacts on education and employability is unevenly distributed. There has been much research into the impact of museum and gallery work supporting formal education and schools programmes, but the links between museums and employability are much less researched. Moreover, even within the field of education, the impacts on informal learning and lifelong learning have been much less researched compared to formal learning impacts.

Future research could look into how museums contribute to providing adult learning opportunities, how they can use recent digital technologies to support learning, how they might provide evidence for actively battling unemployment by working with specific target groups, how they might develop new approaches for measuring impact, and how they can embed education and skills training more structurally in everyday practices (rather than in separate, one-off projects).

At the same time, there seems to be sufficient evidence already to expand Museums Galleries Scotland's list of headline statements (currently including statements on dementia programming, object-handling and engaging older visitors) to also feature statements around museums having the ability to support public and civic pedagogy (through training critical thinking skills), to provide non-traditional classroom spaces, to help young people develop transferable professional skills, and to offer professional development through internship, traineeship and volunteering schemes.

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