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CONTINUING PROFESSIONAL DEVELOPMENT: EVOLUTION, COMPLEXITY AND VARIETY OF SCIENCE COMMUNICATION TRAINING NEEDS

"Bird of another feather": re-envisioning professional development for museum learning experts

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Abstract	The article draws on the case study of the European In-service training course 'School and Science Museum: Cooperation for Improving Teaching, Learning and Discovering' aiming to offer insights into the training of educators in museums. It discusses training and contributes suggestions in the context of the contemporary museum context as well as approaches to visitors' learning.
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Keywords Informal learning; Professionalism, professional development and training in science communication

Introduction

Museums change people's lives. They enrich the lives of individuals, contribute to strong and resilient communities, and help create a fair and just society. Museums in turn are immensely enriched by the skills and creativity of their public [Museums Association, 2013].

Educators in museums are many, and diverse. You can perceive this just by noting the terms used for them across different institutions and countries: museum educators, docents, programme developers, face-to-face learning experts, explainers, facilitators, mediators — these are some of the most common names for the professionals taking care of visitors' learning experiences [Rodari and Xanthoudaki, 2005; Richard, 2010; Rodari, Mathieu and Xanthoudaki, 2012]. Diversity can be found also in the educators' tasks in museums — from direct interaction with visitors to programme, activity, or resource development, to organization and evaluation, to front-of-house tasks — to name but the main ones. Educators have an important role; they are the "visitors' advocates" [Hooper-Greenhill, 2000], the ones knowing what learning in museums means, who the visitors are and what they expect, what kind, how many — and how unexpected — outcomes can be drawn out of a visit. Educators are therefore the ones contributing to create an engaging, constructive, open-ended, positive, personally-meaningful, memorable-for-a-lifetime learning experience, for each and every visitor walking in the museum.

This is a challenge. Not only because we are talking about a multi-faced professional community, but also because training needs can vary greatly if we combine specific tasks, learning approach and each museum identity [Richard, 2010]. At the same time, educators in museums are considered an extremely well-defined and committed expert group, and this is due to their long history in museums and to the shared belief in the value of their work in strengthening and enriching visitors' learning and experiences.

This article focuses on the training of educators. Speaking about training, university or other institutional courses (take for example initiatives organised by ICOM based on its definition of the professional profiles of museums) come in as the 'natural' solution to the problem. Not only; this is a case which brings along a big debate about whether or not there should be a 'universal' and accredited training of those wanting to undertake the job of an educator/facilitator in museums — and if yes, then how this should be designed. This is indeed a complex issue and takes more than the length of this article to address. Here, I would like to focus on *in-service* training as a tool to take a step further in improving practice of individuals and of the field in general. Drawing on the European In-service Training course SMEC,¹ which has taken place annually since 2004, I discuss training not just as a selection of contents and methods combined into a single programme, but rather as among the requisites for what museums are called to do today: "change people's lives" [Museums Association, 2013].

To change people's lives, museums need to make public value an even more explicit goal. In my view, museums, whatever their focus, have the responsibility to help individuals engage in learning — not only about their contents and interpretations, but about individuals' lives at large. Consequently, learning and training need to be understood accordingly.

Learning in museums, museums learning

Just as we must have temptation to predetermine the content of our [visitors'] encounters with the artworks we teach, so must we equally beware the temptation to predetermine, even unconsciously their value. We must have the courage to teach without expectations, in every sense [McCray, 2016, p. 14].

'It looks like fun, but do they learn?' This is (still, unfortunately) one of the most common questions demonstrating, in my view, a certain misunderstanding of what learning in museums is about. According to Gomes da Costa [2005], this question is directly connected to the one about the goal of the museum itself. Today, highly interactive and open-ended experiences are very much promoted in museums, encouraging visitors to take up an active behaviour — ideally, a 'scientific stance' — and use observation, questioning, experimentation, critical thinking as tools for learning. Such an approach means that the museum has moved well away from teaching mono-directionally produced knowledge, towards embracing a more 'contemporary' definition of learning in museums being that a multifaceted process with both affective, cognitive and socio-cultural dimensions, built on experience, investigation, experimentation as well as on imagination and intuition. The complexity of learning in museums lies in the short duration of the visit itself and on the decisive role of the visitor in learning, behaviour, and memory [Hein, 1998; Adams, Falk and Dierking, 2003; Falk and Dierking, 1992; Falk and Dierking, 2000; Bevan and Xanthoudaki, 2008; Xanthoudaki, 2010; Wood, 1988].

¹http://www.museoscienza.org/smec/courses.html.

Building on the above definition means accepting a paradigm shift in the role of museums. On the one hand, it means substituting a "paternalistic approach" [Chatterjee and Noble, 2013, p. 2], with one that welcomes the knowledge built by the learner as equally valid and important; and on the other, 'relaxing' on the fact that learning is a lot more and lot of different things than what museums might expect and prize.

Today, this is of even more crucial importance. From the United States of America to the European Union and as far away as Singapore, educators and policy makers are talking explicitly about '21st century skills and competences'. The '21st century citizen' is (should be) a confident person who has a sense of right and wrong, is adaptable and resilient, knows himself, thinks independently and critically and communicates effectively [Ito et al., 2013; National Academies, 2012; Pellegrino and Hilton, 2012; Sutcliffe, 2011; Financial Times, 2014; Ministry of Education Singapore, 2010]. Consequently, the shift to a learner-centred approach emerges more strongly than ever because it seems to be the only solution for meeting the 21st century skills and competences goal. This has fundamental implications for education and schooling, the ownership of learning, the role of educators; while experience, personal interests, and values, and time and place take up new meanings and roles.

In this context, the question 'It looks like fun, but do they learn?' acquires a whole new meaning. It becomes even stronger that we are not talking — and should *not* be talking — anymore about learning as the acquisition of an array of discrete concepts and facts, or as a process of "moving knowledge from 'out there in the world' to 'in here in the head'"; but rather about learning as the development of increasingly sophisticated, autonomous, and active practices [Bevan and Xanthoudaki, 2008]. The learner emerges as a "subjective agent with dynamic funds of knowledge and repertoires of practice" [Bevan and Xanthoudaki, 2008, p. 108], as an expert in her own right qualified to decide what and how to learn.

This has fundamental implications for educators in museums. It implies moving away from the 'explaining mode' into a more challenging and complex role, one that can really help visitors trust themselves and build a life-changing experience. "Museums are places for learning, not places for teaching" [Gomes da Costa, 2005, p. 1]; therefore, educators should not see themselves as teachers, but as someone who helps someone else learn. But if this is so, should we be also moving towards a redefinition of the educators' role? If yes, what are the consequent changes in skills and competences, training, programme development, face-to-face interactions with visitors? These are the guiding questions when thinking about professional development of the experts interfacing, directly or indirectly, with visitors in museums.

Training of learning experts: in principle, in practice 'School-Museum European Cooperation' (SMEC) is an EU-funded project carried out from 2001 to 2005 by a consortium of eight educational institutions under the coordination of the National Museum of Science and Technology Leonardo da Vinci.² It aimed to foster the use of museums as resources for teaching and learning science in primary schools, and to contribute to the training of teachers in using museums.³ One of the project outputs was the European In-service training course

²http://www.museoscienza.org/smec/partners.html.

³http://www.museoscienza.org/smec/project.html.

'School and Science Museum: Cooperation for Improving Teaching, Learning and Discovering' aimed at museum educators and school teachers together. It started in 2004 and since then continues every year, having trained so far more than 250 professionals from 19 countries. The next course will take place in Milano in October 2016.⁴

The European training course has been an important context for reflecting on the training of educators, especially those of museums. What helped a lot is that the course has been delivered by the same group of professionals⁵ who work together questioning approaches and themes, introducing changes, and looking at the impact of the course in the long run.

In its first editions, the course offered specific methods and tools to participants trying to boost cooperation among museums and schools to maximise the benefit of school visits. However, as years went by, the trainers shaped, and acted around, the following question: what kind of training reflects the kind of facilitation we expect our museum educators to employ in their practice? This question has important implications not only on the content of the course but also on the role of the trainee within the training.

As DePrizio argues, "each trainee comes with a wide variety of expectations, motivations, and prior knowledge, just as visitors do" [2016, p. 5]. Just as in the case of visitors in museums, here too trainees' personal experience becomes the basis for addressing and adapting contents and methodologies, and becomes an integral part of the learning process.

Knowing this, our aim in the course shifted from that of equiping participants with ideas and case studies about how to use museums, to looking into museum learning and experience from different perspectives. Today, the main themes covered — learning theory and pedagogy, science & society, learning through objects, inquiry-based learning, new media, and Tinkering — are the basis to reflect on the changes in the museum identity and role, and on the consequent knowledge and skills required by educators working for and with learners. In SMEC, this means more than changes in the programme of the course; it means a change of approach to training itself.

However, such a shift is a need not just of the SMEC training course. Re-envisioning professional development in the context of the contemporary challenges regards more widely the field of museums, and today needs to go

⁴The course lasts 6 days and is held by an international group of experts specializing in a range of fields: pedagogy, museum education, science education, science & society, research and evaluation, professional development, new media and technologies from: the Museo Nazionale della Scienza e della Tecnologia Leonardo da Vinci; the Deutsches Museum; the Hungarian Natural History Museum; the University of Copenhagen; and the University of Leuven. They have the opportunity to use museum collections, run experiments in the labs, and experience a range of activities. For the 12th edition see: http://www.museoscienza.org/smec/courses_12_eng.htm.

⁵The main group of tutors consists of: Tamas Vasarhelyi Hungarian Natural History Museum, Traudel Weber, Deutsches Museum, Jens Dolin, University of Copenhagen, Jef Van Den Bosch, University of Leuven, Etienne Bolmont, IUFM Lorraine, Sara Calcagnini, Museo Nazionale della Scienza e della Tecnologia Leonardo da Vinci, Paolo Cavallotti, Museo Nazionale della Scienza e della Tecnologia Leonardo da Vinci, Maximilian Knogler, Technical University of Munich. I would like to thank them all for their commitment to the course all those years.

beyond this or that content to include in a programme. Drawing on the SMEC course experience, I would argue for two main areas of work if we are to change training paradigm.

First, we should consider (museum) educators more than 'just teachers' [DePrizio, 2016; Sekules, Tickle and Xanthoudaki, 1999]:

- 1. as persons 'in their own right', bringing dispositions and personal experience when introduced to new experiences;
- 2. as teachers, translating newly-acquired knowledge to pedagogical strategies;
- 3. as reflective practitioners contributing to their professional development through reflective practice, inquiry and critique.

Educators often prefer a role of 'receiving and delivering centrally-packaged decisions', rather than one of elaborating upon learners' personal resources. In many they are found to have had experience of 'safety', following the usual processes in facilitation, dreading moments where their visitors' need to expand their knowledge and understanding might meet their own subject-knowledge limits [Tickle, 1996]. Seeing educators as learners, teachers and reflective practitioners helps deconstruct trainees' individual experiences, question often sedimented strategies, and develop one's 'professional craft' [Dadds, 1997].

Second, I would argue for the value of 'transformative experience' in a training context. Although this is often regarded as a blurry term in the museum field, it is not. I would consider transformative or, according to NMSI, 'life enhancing experience' one that has learning at its heart but is engaging, memorable, inspiring and lasting longer than the visit itself [National Museum of Science and Industry, 2009]. In adult learning theory, transformative learning is all this together with 'meaning making', and helps change the personal and socio-cultural perspectives of the learners. "The learner becomes self-empowered by making sense of life experiences (and knowledge) which can dramatically alter the learners' perspective and identity" [McCray, 2016, p. 13].

Exactly as we preach for visitors, we need to shift training from content-centred to learning-centred (which does not mean abandoning content) [McCray, 2016, p. 14], that is, allow for meaning to be constructed actively through opportunities to engage with 'material' and to connect material to the trainees' self-directed interest and personal experience.

Bird of another feather?

Awakened appreciation, the opening of eyes - that is the docent's⁶ province. Call him a guide and you miss the point. Any average-witted man can learn to convoy visitors about a museum deafening them with his glib, machine-made patter of names and dates ... But the docent is a bird of another feather. Broadly intelligent, trained to know not only pictures and statues but people, verse in the delicate art of imparting not information alone but inspiration - the real docent is born, not made [Bronson Hartt, 1910 in DePrizio, 2016, p. 5]).

⁶'Docent' is the term usually used in the US to define what in a European context we call museum educator.

'Real' educators are not born as Bronson Hartt argued back in 1901. Some of them might have an inclination towards 'natural' facilitation skills, but proper training can offer important opportunities for 'making' real educators. For this to happen, we need to take one step further — or rather, one step higher — towards conceiving the intimate connection between knowledge and activity [Smith, 2003–2009].

And this takes me to my last argument. Building up experience from practice is not enough. We need to foster understanding of the nature of learning and of how knowledge is developed. However, as Grenier contends, "docent training programs and discovered museum educators apply very little theory to docent learning and training processes" [Grenier in McCray, 2016, p. 14]. My experience from training at the SMEC and other courses shows that often theory is perceived as something 'abstract' or not connected (therefore not useful) to the educators' work. Often, course participants ask for case studies, best practice examples, ideas for activities — things that can be transferred to one's own practice with little effort. I consider this a fundamental mistake. Case studies can easily end up being unquestioned recipes, whereas theory derives from research, from reflection, from the abstraction of practice; it is the only way we have to answer all the Whys underlying our work and our field, and to build an authentic understanding of practice. Theory is the starting point for making a difference in quality and needs therefore to have a prime place in training.

Take for example the difference between situated learning and 'learning by doing' [Tennant, 1997, p. 73]. It is essential for the quality of experiences we aspire to offer learners that we are able to reflect on differences that go down to the core of know-ledge and practice, grasping the "extent to which education involves informed and committed action" [Smith, 2003–2009]. These are fascinating areas for exploration and, to some significant extent, they take museum learning experts in a completely different direction to the dominant pressure towards accreditation and form-alization — towards, as Tatter argues, understanding what learning is really about:

"Suppose we assume that the purpose of learning and education is not to remember a lot of things, or to provide a product, but rather to change one's life; and people changing their lives means changing their relationships with other people, with the things around them, and with themselves. Learning has to do with the meaning of things, and those meanings have to do with the uses of these things in our lives — the meaning is the use" [Paul Tatter, 2005 in Jenkins, 2014]).

How interesting, museums aspire to change people's lives; learning is all about changing people's lives. But this is a very difficult thing to do. And it takes birds of another feather to achieve it. But we cannot wait until these are born...

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