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The professionalization of educators in science museums and centers

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ABSTRACT: Explainers have a longstanding presence in science museums and centres, and play a significant role in the institutions' educational agenda. They interact with the public, and help make visitors' experiences meaningful and memorable. Despite their valuable contributions, little research attention has been paid to the role and practice of these individuals. From the limited research literature that does exist, we know that museum educators employ a complexity of skills and knowledge. We also know such educators have a variety of experiences and qualifications – this creates a rich diversity within the field. Finally we know that the content and quality of programmes designed to educate novice explainers vary across institutions. Should we work toward a shared identity across institutions? Or even a “professionalization”? The paper explores the state of the art of the discussion around that questions.

Introduction

Recently, science museums* are called upon to undertake activities that engage the public with science [8], and to supplement the educational experiences offered by the formal sector. Thus, the responsibility, and even onus, of providing an education for scientific literacy among the general public is no longer the exclusive preserve of schools, and is now more explicitly shared with science museums and other institutions. Educators in museums, who are the human interface between the museums' collections, the knowledge and culture that are represented, and the visiting public, have growing importance for contributing directly to educating (or communicating with) the public — a public which includes school children, families, and adults, through their interactions and programmes. For the purposes of this discussion, educators refer to those individuals employed in museums with primarily educational responsibilities.

Despite their longstanding presence in museums [17],[19],[23], there remains limited attention paid to the practice and contributions of the museums' educators. Conversely, there is a growing depth of knowledge on the nature of learning in museums [9],[12]. Research that has reported on museum educators [24],[26],[29] noted that their science backgrounds are varied, their educational credentials range from those with formal teaching certificates to those with no educational training at all, and there is a multiplicity of terms used to identify them. These variations bring a diversity of highly valued experiences and knowledge to the museum education field.

However, this variability may also contribute to the poor definition and recognition of their roles and expertise recently voiced by educators in the US [27], as well as the lack of common understanding about what constitutes best practice reported in research [21]. As a result, the field of museum education in the US is beginning to deliberately question the professional relevance and recognition of museum educators [3]. In Europe, this concern is reflected in the training programme proposed by Dotik (<http://www.dotik.eu>), and then in the activities of THE group (the Thematic Human Interface and

* In this paper, I use the International Council of Museums' definition of museum; “a non-profit making, permanent institution in the service of society and of its development, and open to the public which acquires, conserves, researches, communicates and exhibits, for the purposes of study, education and enjoyment, material evidence of people and their environment,” [20]. Specifically, I focus on museums within domains of science such as natural history museums, science centers, botanical gardens, zoos, aquariums, and nature centers.

Explainers group of Ecsite, <http://medialb.sissa.it/THE>) which further signifies the interest and urgency to examine the work and contributions of museum educators. This paper explores these concerns within the context of professionalization, and argues that developing a shared professional language is a necessary part of the process. The discussion begins with an overview of the educational work of museum educators, and identifies the lack of shared language in current practice. Next, a sociological framework on professions is used to argue the need for, and value of, having a shared professional language. Finally, borrowing from the experiences of the school teaching and nursing professions, a plan of action is proposed to develop a shared language among educators in museums.

Diversity of educational responsibilities and language

The educational tasks for which museum educators are responsible are diverse. They develop, coordinate, and implement programs for school groups, teachers, and the general public [4]. They contribute to designing and developing exhibits and exhibitions [5],[25]. They also create and nurture relationships with community groups in order to attract visitors and make their museums accessible, relevant, and inclusive of the people they serve [18]. Their responsibilities are so numerous that they describe themselves as “wearing many hats.” In their reflection on the diverse skills, qualifications, and work of the educators at their institution, Dragotto, Minerva, and Nichols [10] acknowledged that “museum education is becoming increasingly complex. ...[The] field combines teaching with event planning, drama, project management, grant writing, marketing, market research, and expertise in a specific content area,” (p. 221). These sentiments about an occupation whose work increasingly involves an assortment of tasks, skills, and responsibilities are echoed in the narrative reflections of other educators [22],[33].

This diversity in their responsibilities coupled with variability in their backgrounds, skills, and identities results in an eclectic occupation. The scope of their educational responsibilities is wide-ranging and inclusive of any and every task necessary to carry out their institution’s educational agenda. Additionally, educators enter the occupation with a varied background of experiences and formal education that may not be directly related to the museum or education fields, and currently there is no requirement to attain knowledge in these fields in order to be an educator in museums. While such an assortment of experiences and expertise can be valuable contributions to individual institutions as well as the field as a whole, it can also result in a multiplicity of practice and terminology that may not be appropriate or make communication with others inside and outside the field difficult.

This caution arises from findings in research. A study of the pedagogical actions and rationales of educators reported that the design of their programmes and the patterns of their discourse resembled schoolteachers’ practice [30]. Interviews with educators about their pedagogical decisions and reasoning revealed a complexity in science pedagogy in museums, which challenged existing depictions of didacticism and inattentive to learners as suggested by previous research [7],[28]. Nonetheless, findings intimated a transfer of school practice into the museum environment. Interestingly, two of these four educators were certified classroom teachers while a third was in the process of obtaining her teaching license. For these educators, preparation to teach in museums primarily consisted of observing veteran educators and learning the outline for pre-planned programme. Thus, while it may not be surprising that as result of the lack of preparation to teach in museums, the educators’ practice resembled school teachers, it questions whether this transfer of practice is appropriate.

Another study exploring educators’ conceptions of their professional work revealed that there is common understanding of what is considered educational work in museums that have developed from practice, and there is even a shared sense of occupational identity [32]. However, what became apparent was the lack of a shared body of professional language used by educators to talk about their work and identity. These inconsistencies occurred among educators within and across institutions. Furthermore, most of the educators identified with their job titles rather than the occupation; which, given the multiplicity of possible names for one job post within this occupation — the educators who directly interact with visitors — as reported by Rodari and Xanthoudaki [26], unifying this field would be extremely challenging. Similarly, in their study of professional development programmes offered to schoolteachers by museum educators and university faculty, Astor-Jack et al. [2] found a distinct contrast in language used by staff in universities compared with staff in museums—university staff used clearly and commonly defined terms while terminology used by staff in museums were more individualized and

lacked coherence. According to Hein [17], this inconsistency in terminology has existed since the emergence of the occupation. The professionalism literature offers insight as to why this lack of shared language may be a cause for concern.

Professionalism and professional language

Professionalism — the idea of being a profession — is increasingly used in mission statements and organizational aims to appeal to potential employees and clients, and to motivate existing staff [11]. The appeal lies in the image that a profession provides collegiality amongst members, exclusive rights over an area of expertise and knowledge, power to define the nature of problems in that area and the control of possible solutions, and autonomy in decision-making and self-regulation [11],[13]. It also represents freedom from hierarchical and bureaucratic control [14]. Furthermore, professionals are accorded respect and — by virtue of their education, experiences, and observance of moral codes of conduct — are trusted to exercise their knowledge and skills with competence and in confidence. In return professionals are rewarded with authority, status, esteem and prestige [11]. In general, professionals also receive higher levels of remuneration.

Professionalization is the process whereby an occupation works towards becoming a profession. According to Abbott [1], there needs to be a service the occupation provides to society through a domain of knowledge and skills that it claims, which is not already met by existing professions. In the process of claiming space for itself, members of an occupation identify the knowledge and skills necessary to carry out their work. Theoretically grounding the knowledge and skills allows for a certain degree of abstractness in the description of the work so that the profession may be versatile and adapt to changes over time and needs in society. In this part of the process, the profession's technical language is developed from research and practice so that communication can occur within and across each side of the profession, as well as with others outside the profession. A training mechanism is then devised whereby the next generations of practitioners are taught the knowledge and skills through the profession's language, and then inculcated into the culture of the profession in a consistent and organized manner. This mechanism is crucial as it serves to strengthen the profession's identity among its members, clearly demarcates the profession's knowledge and skills-bases, and as a result, enables the profession's members to control access to their knowledge and skills. In some instances, the opportunity to use the profession's knowledge and skills is further controlled by its members through the formation of a professional association, and the attainment of governmental support by means of a license to practice — the license being the legal recognition of the right to use the knowledge and skills which is granted by the association. By virtue of these measures, it has been argued that a profession protects the monetary and intellectual interests of its members, reduces contentions from unqualified competitors, and allows individuals to focus on improving the quality of their service [14],[15]. Acquisition of all these traits reflects achieving full professional status.

The occupation of museum education has engaged in the professionalization process for many decades though it has not yet fully achieved many of these traits [31]. Tran and King argue that the lack of recognition and understanding for the work of museum educators, both in research and practice, is primarily due to two missing traits: a process of professional preparation for new museum educators built upon a knowledge base for pedagogy in museum settings, and, as a corollary, a widely shared model of practice based upon that body of knowledge and skills. Further to their proposal is the position argued in this paper — the field also needs to identify and develop a shared language to enable its practitioners to communicate with others inside and outside the field. This need and struggle for a shared professional language is currently challenging the fields of nursing and schoolteachers to establish consistency in practice and attain sustained recognition of their profession. Though there is little research in the area of professional language, some literature reporting on experiences of nurses and schoolteachers may offer insight on how professional language may be useful for this field.

Clark [6] argues that one reason nursing is poorly understood, recognized, and valued is because “nursing has no common language to describe precisely what nurses do, for what sort of problems or patient conditions, and with what results. Without a language to express our concepts we cannot know whether our understanding of their meaning is the same, so we cannot communicate them with any precision to other people,” (p. 42). Nurses typically communicate with colleagues and patients using lay language which lacks precision for the complexity of their work. Consequently, as Clark explains, “the words are not standardised, so their meaning varies according to context and the private understanding of

the people using them” (p. 42). This habit is similar to what has been observed among educators in museums discussed above. Moreover, nurses tend to treat the use of more technical language as an academic exercise, which resembles the situation among schoolteachers. Hargreaves calls attention to the lack of shared technical language among teachers. He explains [16] that teachers in the UK continue to:

rely heavily on what they learn from own experience, private trial and error. For a teacher to cite research in a staffroom conversation about a pupil would almost certainly indicate that he or she was studying for a part-time higher degree in education or rehearsing for an OFSTED visit—and would be regarded by most colleagues as showing off.

As suggested by Clark [6] and Hargreaves [16], what commonly underlies the lack of shared language across these two professions is the lack of knowledge and skills specifically articulated for them. Additionally, without a shared language taught to practitioners during their professional education, they are reluctant to use it in their own practice.

Professional language is something that needs to be developed as a collaborative and iterative process from research and practice, and its use needs to be taught. Yinger and Hendricks-Lee [34] argues for the need to have standards of teaching as a part of teacher education programmes, which educates future teachers on the knowledge of their profession, how to use that knowledge, and also how to talk about the application of that knowledge. Fundamental to their argument supporting teaching standards as a means to establish the teaching profession is the development and application of a shared professional language that is taught and modelled during a teacher’s licensing coursework and internship. They offer evidence from their teacher education programme to suggest ways in which language can be useful for beginning teachers to articulate their concerns beyond individual instances, thus modelling how the knowledge of the profession can be applied.

Developing a shared professional language

In summary, the discussion in this paper highlighted the significant role of science educators in museums within the context of museums' role and responsibility to engage and educate the public in science. It revealed that while educators' practice may be complex, they lacked a shared language to talk about their work with others inside and outside the field. This lack of shared language could be attributed to the fact that the field has yet to define its knowledge and skills. A framework drawing on the sociology of professions literature was used to argue for the need of a shared technical language in order for the profession to mature and gain legitimacy in society. The struggles of the nursing and teaching professions were offered as cases from which to learn.

Two actions emerge from the discussion in this paper. First, in order to establish a body of professional language, the work and the underlying knowledge and skills of the profession needs to be understood. Developing the language is a collaborative and iterative process between researchers and practitioners. The practitioners offer the micro-level insight through lived experiences while the researchers provide macro-level perspective from theories and research within and across fields of study. Learning from the professionalization process of schoolteachers and nurses, these elements — body of knowledge, skills, and language — are important for practitioners and researchers to communicate with others inside and outside their profession, which also contributes to social recognition of the profession as legitimate. Second, in order for professional language to be used in practice, it must be part of the professional education programme. Again learning from schoolteachers and nurses, modelling the use of their professional language as a part of professional education demonstrates to practitioners how to talk about their work within the framework of the knowledge and skills of the profession, and thus would likely encourage educators to use such language in their own practice.

The Dotik project and THE group argue for professional education for one specific group of science museum educators, those who directly interact with visitors. This is an extremely important and challenging endeavour given the low status and regard for these educators across museums, across countries. However, such a movement is also needed across the field for all science educators in museums because these educators who interact with visitors are part of the museum education profession as a whole. A common body of knowledge, skills, and language needs to be developed and applied across all levels of science educators in museums in order for the occupation to fully work towards becoming a profession.

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