

## Science Centers at 40: Middle-aged Maturity or Mid-life Crisis?



**Rob Semper**

**Abstract** Science centers are maturing in an era in which learning has become acutely individualized, self-empowered, and selective. The science center movement is now faced with a new educational environment that it can either embrace or ignore. What does it mean to be an institution in this deinstitutionalized world?



The science-center movement is nearly 40 years old. These new places were born out of the confluence of the learner-centered educational movement of the mid-1960s and the investigation-focused science education reform movement of the late 1950s and early 1960s. They borrowed interactive exhibits from the science-and-industry museums, the informational displays of the Worlds Fair science exhibitions, and the science demonstrations common to schools and universities to create new institutions that contained collections of ideas rather than things. These institutions rode the wave of the deauthoritization of formal education—the dramatic shift toward the empowerment of students and individuals to be in control of their own learning—that swept through the country and the world at that time. The oft-repeated statement by Frank Oppenheimer, the Exploratorium’s founder, that “Nobody flunks a science museum” became emblematic of a public education movement that has spawned hundreds of science centers and has advanced exhibition development in science museums, natural history museums, zoos, aquariums, and planetariums worldwide.

Despite the amazing growth of the field over the last 40 years, there has been concern lately about its future. As audience expansion has slowed and the financial picture has changed, a mood of introspection has been settling in—as evidenced by the recent spate of conference sessions on the next generation of museums. This is particularly

*Rob Semper (robs@exploratorium.edu) is executive associate director of the Exploratorium, 3601 Lyon Street, San Francisco, CA 94123.*



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true for science centers that do not have the foundation of a collection to provide a sense of long-term stability. This mid-life crisis is partially due to the natural forces of aging and maturity. But it is also due in part to another fundamental change in the educational landscape—one that is at least as powerful as that of the 1960s. Connectivity tools such as the Internet, cellular phones and wireless network—and the new social opportunities for learning that these tools provide—allow people the control to choose when and where and from whom they select their learning opportunities. This is leading to the de-institutionalization of education—a state of affairs in which individual institutions in a particular location lose their unique status as educational providers. In particular, the recent advance of the Web from its early presentational form in Web 1.0 (dependent on the designer/author) to the new promise of social interactivity of Web 2.0 (providing opportunities for the user to contribute) is accelerating this trend. Not only has education become learner-centered, it has now also become acutely individualized, in the sense that individuals can choose where and when and how and from whom they learn. Social software tools let people maintain social communities; social accounting tools let people build trust with strangers; knowledge-collective tools help people teach each other; and social mobility tools help people do all this when and where they want in the physical world.

Poised at the beginning of the twenty-first century, the science center movement is now faced with a new educational environment that it can either embrace or ignore. Science centers came uniquely out of an era shaped by the profoundly changing educational environment of their time. Will the field turn again to the changing educational



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context to redefine itself or will it struggle to maintain its current identity in the face of a radically changing world? What does it mean to be an institution in this deinstitutionalized world? What does it mean to have an identity as a real time, real space “place” in an increasingly virtual world? What does it mean when the public can create and sell audio tours of our exhibits? When people can visit a distant museum’s assets with high fidelity online? Where the locus of authority shifts from institutions to individuals? When our visitors using mobile tools can interact with each other and the outside world during their visit? When we think of learners not just as students in a school but active participants in a learning environment made up of schools, homes, media, and museums? Who are the new competitors and partners for our work? Are our institutions a valuable asset for our audience on their terms? Or will science centers just become irrelevant to our public’s educational experiences? Will they be places that are nice to visit but not on our communities’ must-have list?

Like all science centers, the Exploratorium has had to confront this changing landscape. It spent the first 15 years of its life developing its expertise in creating on-site learner-centered experiences for the public, teachers and students through exhibits and programs. This was followed by 15 years of developing the tools, partnerships and networks that allowed it to extend these experiences to an audience beyond its walls through online activities, teacher professional development, an active research group and relationships with museums and educators worldwide. As we enter our third phase, our focus is on creating opportunities for our audiences to become true partners in our development. The possibilities include providing options for co-development of exhibits and

programs, supporting user-created online materials based on our resources, and the creation of a new inside-out physical facility—one that serves as a hub for a regional community presence based on partnerships and the idea of creating a distributed learning environment. While our thinking at this stage is a work in progress, our mission over the years has remarkably remained the same: to create a culture of learning through the innovative environments, programs and tools that help people nurture their curiosity about the world around them.