# Effect of technology on the motivation of museum visitors

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One of the biggest challenges for the museum educator is that he or she must reach a widely diverse audience, which might include all age groups, diverse ethnicities, different levels of education, and various socio-economic backgrounds. This paper will look at what motivates individuals to visit a museum and then offer recommendations for ways that museum educators can employ new technology to further engage audiences.

Motivation can be described as the reason one has for acting or behaving in a certain way. Ryan and Deci (2000) suggested that people not only have different amounts of motivation but also different kinds of motivation. The authors distinguished between extrinsic motivation, which refers to doing something for some type of tangible reward and intrinsic motivation, which refers to doing something because it is enjoyable. Ryan and Deci (2000) stated that, "intrinsic motivation results in high-quality learning and creativity" (p. 55). Humans are naturally curious, inquisitive, and playful. Ryan and Deci (2000) wrote, "This natural motivational tendency is a critical element in cognitive, social, and physical development because it is through acting on one's inherent interests that one grows in knowledge and skills" (p. 55).

According to Eisner (2002), one lesson the arts teach us is the value of intrinsic rewards. In American schools there is growing emphasis on extrinsic rewards as grades and standardized tests become more important. People who engage in the arts often do so because it is personally satisfying and not for any external rewards. The arts teach the skills and attributes of effort, hard work, and persistence to determine achievement. Similarly, Csikszentmihalyi and Hermanson (1999) discussed intrinsic motivation related to museum visitors and described why people are motivated to visit museums:

> "One often meets successful adults, professionals or scientists who recall that their lifelong vocational interest was first sparked by a visit to a museum. In these accounts, the encounter with a real concrete object from a different world—an exotic animal, a strange dress, a beautiful artifact—is the kernel from which an entire career of learning grew. For others with an already developed curiosity about some field such as zoology, anthropology, or art, the museum provided an essential link in the cultivation of knowledge—a place where information lost its abstractness and became concrete. In either case, many people ascribe powerful motivation to a museum visit, claiming that their desire to learn more about some aspect of the world was directly caused by it" (p. 146).

In Csikszentmihalyi's and Hermanson's view, learning involves an open process of interaction with the environment. Csikszentmihalyi and Hermanson (1999) wrote, "This experimental process develops and expands the self, allowing one to discover aspects of oneself that were previously unknown" (p. 147). Csikszentmihalyi and Hermanson (1999) explain that the learner will be intrinsically motivated to pursue a learning activity if complex information is presented in a way that is enjoyable to the learner. Museums rely on visitor's innate curiosity and interest to motivate them to visit the museum. Csikszentmihalyi and Hermanson (1999) contend that the learner's interaction with the exhibit must become intrinsically rewarding for positive intellectual or emotional changes to occur.

Many museums have embraced technology as a way to enhance the experience of the museum visitor. Technologies such as kiosks and smart phone apps provide expanded content, interpretation beyond what a wall label can provide, and an interactive experience that helps to engage the learner. Some museum curators fear that adding technological devices to the gallery

space will distract and take attention away from the collection. A number of research studies suggest that when thoughtfully employed, new technologies such as iPads and smart screens can increase the engagement of museum visitors and extend the time visitors spend interacting with an object.

According to Isaacson, McGuire, Sayre, and Wetterlund, (2011), most museum visitors come to the museum in groups. The introduction of the Apple iPad has allowed museum educators to include technology on docent-led tours and as a result, provide this interactive experience to tour groups. In an Art Museum Teaching forum, Murawski (2012) described his experience of using an iPad during a museum tour for a group of second grade school students. He was in the African gallery where much of the work was displayed up high in a dimly lit space. After looking at one of the masks on exhibit, he played a video on his iPad for the group. Murawski (2012) wrote, "I quickly noticed that every student in the entire group was silent and paying *very* close attention to the video. Then our discussion turned back to the "Buffalo Mask" before us in the gallery — a really great exploration that had the students looking more closely and connecting in a more meaningful way. Their level of interest had skyrocketed" (para. 4). It has been noted that iPads are now used on museum tours in the many ways, including:

- to show maps to help visitors understand where an object was made,
- to share images of an object on exhibit that cannot be seen (for example, the back or inside of a work that would be hidden from view),
- to share music related to an object, and
- to share videos of artists creating the work that is on display.

Many museum educators have commented that technology should be used judiciously so that the focus of the tour is on the work and not on the technology. The iPad can bring context

and content to a visitor in ways that traditional techniques cannot. Murawski (2012) noted, "for the human-centered experience that is the guided tour, these simple uses of the iPad can truly add a powerful dimension to the learning experience" (para. 12). In addition, if docents are equipped with iPads, they can answer visitors' questions. Museum staff and volunteer guides could engage visitors in conversation and use the iPad to look up information relevant to the visitors' questions.

Murawski expanded his use of iPads to other exhibits in the museum and trained the museum docents to use iPads on their own tours. Isaacson, et al. (2012) also reported that using an iPad increased the engagement of museum visitors. Isaacson, et al. (2012) explained, "All visitors indicated understanding how the iPad content related to the tour content, and all thought it added to their understanding of the works of art. Visitors responded to short videos illustrating artistic processes or techniques with an audible 'ah ha!'" (para. 16).

In another study, the Victoria and Albert Museum redesigned their British galleries in 2001 and in the process, made the decision to include technology directly into the design of the galleries. According to Sayre (2005), the goal was to reach the museum's diverse audiences, which included independent learners, families, school groups, students from continuing and higher education, local audiences, ethnic minority groups, foreign visitors, and professional specialists and amateur collectors. Using flat screen technology, the museum was able to locate the devices in close proximity to the artwork. Sayre (2005), stated that the media installations included:

- short passive video loops (with a maximum length of three minutes) illustrating a limited number of concepts;
- computer–based games requiring visitors to apply their knowledge to solve a

problem or answer a question;

- creative interactives where the visitor makes design choices to create a personalized "product;"
- social interactives where visitors can contribute their thoughts and feedback to the museum and to larger topical community discussions (connected with the V&A's Web site);
- longer, large–topic video programs; and,
- audio access points, where visitors can choose to listen to a short audio program (para. 11).

The findings of the study showed a positive response to the addition of technology. Sayre (2005) discovered that the average time a visitor spent in the gallery increased from 11 minutes to more than an hour. Sayre (2005) also reported that, "of visitors using media programs, 94 percent reported feeling that use of the media program(s) had increased their understanding of objects on display. Gallery observation of prototype media programs showed that visitors spent twice the amount of time looking at the related object" (Findings section, para. 3).

Any visitor to a museum in the last ten years or so is aware of museum's use of audio tours. These tours are delivered to the visitor in a direct museum-to-visitor method. According to Proctor (2011), "today's new networked mobile devices — smartphones, tablet computers and Wi-Fi-enabled media players — two-way communication models are now easier and on the rise" (para. 4). Interactive devices now allow audiences to engage in games, crowdsourcing activities, and social media. Proctor (2011) stated that these "can be delivered via apps to the visitor's own Internet-enabled phones and media players, instead of or to supplement devices provided on-site

by the museum" (para. 4).

Museums have long been early adapters of technology to reach new audiences. The addition of the iPad and other smart technologies has added useful tools that can foster the museum's educational mission to engage and motivate audiences. These interpretive techniques can deliver relevant content quickly and effectively and when used appropriately can engage and motivate museum visitors and enhance the learning that takes place.

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