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Procedia Social and Behavioral Sciences

Procedia - Social and Behavioral Sciences 143 (2014) 743 - 749

CY-ICER 2014

An Integrative Approach For Visual Arts Mediation In Museums

Free De Backer^a*, Jeltsen Peeters^{a,b}, Tine Buffel^{a,c}, Ankelien Kindekens^a, Veronique Romero Reina^a, Willem Elias^a, Koen Lombaerts^a

> ^aVrije Universiteit Brussel, Department of Educational Sciences, Pleinlaan 2, Brussels 1050, Belgium ^bResearch Foundation Flanders, Egmontstraat 5, Brussels 1000, Belgium ^cThe University of Manchester, School of Social Sciences, Oxford Road Manchester M13 9PL, UK

Abstract

Many educational practices within an art museum setting lack a substantial theoretical ground to underpin visual arts mediation. The absence of theoretical foundations and well-defined aims is detrimental to the quality of learning processes of museum visitors. Constructivist theories consider a multilayered structure of museum learning to meet visitors' diverse learning needs which presupposes different strategies from the museum staff. The paper presents an integrative model of visual arts mediation for the design of theoretically well-founded arts education practices, which can be embedded in different learning contexts.

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Keywords: Constructivism, visual arts, museum learning;

1. Introduction

Both the museum sector and the educational field consider museums as remarkable sites for learning (Falk & Dierking, 2000; Frykman, 2009; Hein, 1998; Hooper-Greenhill, 2001). After almost a century of rather remote links, the biggest challenge at the present time is a closer and more qualitative relationship between museums and their (potential) visitors (Doering, 1999; Hein & Alexander, 1998; Hooper-Greenhill, 2001). Museums have to abandon the parochial and narrow view of their place within the educational infrastructure (Falk & Dierking, 2000), as museums are increasingly expected to provide socially inclusive environments for lifelong learning (Hein & Alexander, 1998; Hooper-Greenhill, 2001). However, the educational museum intention, their perception of

^{*} Corresponding Author Free De Backer. Tel.: +32-2-629-12-40 *E-mail address*: free.de.backer@vub.ac.be

education, how people learn, and what education consists of, are often vaguely defined if defined at all (Hein, 1998). Part of the reason for this uncertainty is a lack of knowledge within museums of the profound developments that have occurred over the past century in educational theories, processes and structures outside museums (Hooper-Greenhill, 2001). Another cause is that knowledge about and attention to visitors' learning processes are not always prioritized within management decision-making processes. Therefore, in many museums the necessary concepts, expertise, and manpower are lacking (Doering, 1999; Hooper-Greenhill, 2001). Museums currently lack deep and widely shared understanding of how people learn from museums (Falk & Dierking, 2000; Hein, 1998; Hein & Alexander, 1998; Hooper-Greenhill, 2001). Most museum visits are usually of short duration and relatively infrequent which clearly affects research evidence (Hein & Alexander, 1998). Moreover, if the underlying educational approach is not thought through, the result is probably disagreement among staff over museum goals and content (Ansbacher, 1999). In other words, the practice as well as the study of museum education has been hampered by disagreement about appropriate goals and outcomes, and lack of a substantial theoretical ground to underpin visual arts mediation (Ansbacher, 1998; Falk & Dierking, 2000; Falk & Storksdieck, 2005; Hein, 1998; Hooper-Greenhill, 2001; Mayer, 2005). This gap between theory and practice is detrimental to the quality of arts mediation and subsequently threatening for visitors' learning processes (Ansbacher, 1999; Hein, 1998). Yet, museums would significantly benefit from integrating these insights to meet participants' diverse learning needs (Everett & Barrett, 2011; Dierking, Ellenbogen, & Falk, 2004).

Against this background, the present paper aims to explore an integrative model of visual arts mediation for the design of theoretically well-founded arts education practices, which can be embedded in different learning contexts.

2. Towards an educational paradigm in museums

Since the 1970s a number of researchers have examined how educational theories have affected museum practices and pondered how educational research can contribute to learning in museums (Davis & Gardner, 1993; Hein, 1998; Hooper-Greenhill, 1991; Mathewson, 2006). Every educational approach suggests particular educational practices, presupposes different responses from the museum staff and constructs a different kind of museum for staff to work in (Hein, 2007; Hooper-Greenhill, 2001).

Many drastic changes have taken place in the 20th century concerning educational theory: the rise and decline of behaviorism, the emergence of developmental theories, the recognition of the importance of environmental factors in learning, and the rise of active models for learning in constructivist approaches (Hein & Alexander, 1998; Hooper-Greenhill, 2001). The focus of art museum education theory has shifted from ideas about simply showing artworks – the transmission-absorption model – to ideas about fostering visitor encounters with all available materials in the art museum in order to provoke diverse and subjective learning experiences in line with constructivist perspectives (Buffington, 2007; Doering, 1999; Falk & Dierking, 2000; Hein, 1998; Hooper-Greenhill, 1999; Mayer, 2007; Silverman, 1995). Although today, both paradigms can still be observed (Doering, 1999; Hooper-Greenhill, 2001), constructivist principles dominate the contemporary discourse on learning in museums (Anderson, Lucas, & Ginns, 2003; Hein, 1998; Rowe, 2002) because of its potential to place visitors' learning experiences.

Constructivism recognizes museum learning as an active process in which visitors construct their personal meanings and give sense to learning experiences themselves (Hein, 1998; Hooper-Greenhill, 1999). These learning processes are not only significantly influenced by the visitor's background, previous experiences or visit conditions, but also by museum objects themselves and the way they are presented. Both the visitor's perspective, which is embedded in a complex socio-cultural context, and the physical context of the museum, have an impact on visitors' learning behavior (Anderson, Lucas, & Ginns, 2003; Falk & Dierking, 2000). In line with this thinking, interpretations of visitors are considered to be valid irrespective of the fact that they conform to some external or imposed standard of truth (Hein, 1998; Hooper-Greenhill, 2001; Silverman, 1995). Artworks themselves have various layers of denotation resulting in as many interpretations as the amount of visitors (Goodman, 1981). The visitor has to be encouraged to join this dynamic arts educational process.

have in this regard, the richer and more nuanced their interpretation will be of both the work of art itself and the world around it (Hooper-Greenhill, 1991). Constructivism accepts ambiguity and uncertainty as crucial components of the human condition. Therefore, for many it is a disquieting, uncomfortable educational paradigm (Hein, 2001). According to Hein (1998), museum staff has to acknowledge that exhibition making is not about displaying the truth. Rather it represents one of many interpretations of museum objects. After all, exhibition making implicitly embodies attitudes, perceptions and values, which seem to be recognized by visitors (Hooper-Greenhill, 2001). Information that is presented as valid without alternative perspectives discourages visitors' motivation to explore and learn more (Csikszentmihalyi & Hermanson, 1995). A museum needs to address three basic ideas in order to hold a constructivist view. These include: first, knowledge is constructed by the learner/visitor; second, learning is an active process assuming engagement of the learner/visitor; and third, the accessibility (physically, socially, and intellectually) of the situation to the visitor. Each implies specific conditions that must be met in any educational setting. However, no museum in the world today may fit the criteria completely, nor is it likely that some will ever do (Hein, 1998).

3. Promoting learning experiences in museums: an integrative model

When researchers' attention shifted to examining processes of meaning making by visitors during exhibits, the significance of gaining insight in museum learning processes arose (Falk and Dierking, 1992; Hein, 1998). A number of authors acknowledged the complexity of museum learning (Falk & Storksdieck, 2005; Hooper-Greenhill, 2001, 2004; Kirchberg, 2012; Rennie & Johnston, 2004), as the quality of museum learning experiences is influenced by myriad factors (Dierking, Ellenbogen, & Falk, 2004; Falk & Storksdieck, 2005). Therefore, constructivist theories advocate a system approach to understand learning as related and overlapping processes that accommodate the complexity and temporary nature of learning and meaning-making from objects and experiences (Dierking, 2002).

Constructivist theories consider the general museum experience, which results in multilayered factors that the museum has to take into account as audience advocate. In order to fully consider the multilayered structure of museum learning, an integrative model is presented using the framework of an existing self-assessment planning tool aiming at 'Inspiring Learning for All' (MLA, n.d.). This framework includes four key areas (person, place, partnerships, and policy) acknowledging that museum learning experiences are shaped by factors that go far beyond what museums suppose. The novelty in our approach is the combination and centralization of the main constructivist principles (Hein, 1998) for each key area.

3.1. Person

Constructivism emphasizes that visitors construct personal knowledge as well as learn actively. Therefore, constructivist museum staff needs to consider and value three aspects: first, the way individual visitors learn; second, visitors' cultural/social personal constructs; and third, visitors' personal meaning making as they interact with exhibitions (Hein, 2001).

First, considering visitors' way of learning results in the attention to visitors' aesthetic developmental needs and interests (e.g. Housen, 1992; Parsons, 1987), as well as the wide range of socially mediated developmental stages among visitors (Hein, 1998). One approach is to provide separate avenues or, alternatively, to include exhibits at different heights, with distinctive labels for adults and children, or to incorporate material intended to various interests. Another possibility is to try to focus on accessible attributes of exhibitions to all visitors (e.g. minimizing reliance on words). No simple recipe will solve this issue, but museums' success in engaging visitors will depend both on the quality of the presentation and the local circumstances in which particular material is used (Hein, 1998). Another consequence of the current acceptance of the active learner is the emergence of various typologies of learners (e.g. Gardner, 1983; Kolb, 1984; McCarthy, 1990). Museum staff should consider several ways to involve

their audience by appealing to all senses as well as other learner capabilities both for strengthening visitor interaction with exhibitions and for processing information (Hein, 1998).

Second, museum staff should take into account the importance of visitors' prior knowledge (Roschelle, 1995), a major factor mediating any learning that can take place. The constructivist museum provides visitors with opportunities to make connections between the known and the new experiences ranging from feelings about physical space to concepts about ideas, which realizes intellectual comfort. Two different methods can be employed to invite, surprise or tease the visitor: first, connecting what is (presumably) familiar to the visitors with the unfamiliar content of the galleries; or second, expanding the exhibition policy focusing on ordinary and therefore (presumably) familiar objects (Hein, 1998). One path is seducing the visitor by the lure of the comfortable, the known, to further explore it in-depth. But another well-recognized path is the temptation of a challenge. Museums have to find just the right degree of intellectual challenge to leave the learner slightly uncomfortable but sufficiently oriented and able to recognize the challenge to appreciate it. This central learning dilemma needs to be stressed in every exhibition. There is a need for empirical results to try out various exhibition components with visitors (Hein, 1998).

Third, the constructivist museum has to acknowledge, accommodate and value that visitors make meaning mediated by museum objects, by the way in which they are presented, and also powerfully by their background, previous personal museum experience, and conditions of their visit (Hein, 2001, 2007; Hooper-Greenhill, 1999; Silverman, 1995). It presupposes to embrace sufficient levels of meaning to make connections available to the visitor (Hein, 1998). As meaning making is a complex process for visitors, several researchers (e.g. Aguirre, 2004; Charman & Ross, 2006) stress the importance to educate visitors about the construction of meanings. For example, the 'Visual Thinking Strategies' method designed by Housen and Yenawine (2001) – named after Arnheim's (1969) view on visual perception and thought – facilitates open-ended discussions about visual art aiming to enhance visitors' aesthetic understanding and to engage viewers in a rigorous process of meaning-making. If museums recognize the principle of meaning making, they have to determine what meanings visitors do make from their experience, and then shape the experience by mediating the environment. It is important that museums have an eye for sharing experiences, because social interaction allows visitors to go beyond their individual experience, to extend their own knowledge and even their ability to learn (Hein, 1998).

3.2. Place

According to a constructivist approach, the role of the museum staff is to provide stimulating and rewarding environments in which appropriate learning experiences can take place (Hein, 1998). Space – whether physical or virtual – can be conducive to learning. It can bring people together; and promote exploration, collaboration, and discussion (Allen, 1984; Oblinger, 2006). Physical accessibility is closely associated with intellectual accessibility (Hein, 1998). Every decision regarding interior spaces can have an influence on the experience of people learning and teaching in that space (Gee, 2006). As museums at the present time are increasingly expected to provide socially inclusive environments for lifelong learning, a more focused approach to visitors becomes more necessary (Hooper-Greenhill, 2001). Consequently, the notions of effective learning spaces have changed (Oblinger, 2006). Three major trends from current learning space design have been catalyzed by constructivism, digital technology, and a holistic view of learning: (1) design based on learning principles, resulting in intentional support for social and active learning strategies; (2) an emphasis on human-centered design; (3) increasing ownership of diverse personal devices that improve learning (Brown & Long, 2006).

All learning is influenced by the awareness of place (Falk & Dierking, 2000). Visitors' first kind of connection begins at the building that they enter, its location, its appearance, and its general atmosphere. Museum spaces are frequently designed with little concern for visitors' needs for privacy and comfort in order to learn. Considering modifications within existing space to become more accessible will benefit all visitors and support their learning processes. This usually means some way of decreasing the scale and providing human-size, familiar surroundings. At least some spaces need to be recognizable to visitors as settings for relaxed, engaged lengthy activity and in

which the viewer would feel safe (Hein, 1998). Obviously, in any educational theory it takes time to learn. Although it is in conflict with the marketing push for more visitors, the simplest way to lengthen visitor time in the exhibition is providing visitor comfort ranging from simple physical comfort, psychological conditions, to the inevitable museum fatigue. Orientation in museums plays a powerful role in relation to visitors' general comfort. To prevail visitors' anxieties and uncertainties museums should invest heavily in explicit orientation aids in- and outside the building as well as in human beings, the most effective orientation means of all (Hein, 1998; Hein & Alexander, 1998).

3.3. Partnerships

Museums establish social relationships with the world outside its doors, which are expressed through the way they approach visitors (Hooper-Greenhill, 2001). Consequently, constructivist perspectives must be exuded within their partnerships. A number of studies substantiate the value of building creative learning partnerships on both visitor and museum level. First, the constructivist museum will increasingly include the public in the development of exhibitions. To encourage visitors to return, it is important to provide resources of all types for those who are motivated to continue their interaction with the subject of the exhibition (Hein, 1998). Second, Simon (2010) identified 4 participatory modes ranging from significant to limited museum input (respectively contributory, collaborative, co-creative and hosted mode). Working in partnership with libraries or other cultural organizations becomes important in bringing new perspectives and broadening the range and appeal of learning opportunities, which makes museum approaches applicable to a wider range of visitors (Hein, 1998; MLA, n.d.). The literature demonstrates widespread agreement of the importance of relationships between museums and schools (Eckhoff, 2011; Hooper-Greenhill, 1991; Paris & Hapgood, 2002) to enrich classroom curriculum, to support student success (Eckhoff, 2011) and to provide opportunities for developing skills, knowledge and experience of relevance to lifelong learning (Mathewson, 2006). Making links between school and museum learning explicit, valid, and constant ensures successful museum experiences (Eckhoff, 2011; Griffin, 2004). Museums have to take into account that both students and teachers may not be used to work in a constructivist way. Explicitly and previously informing them about what they might learn makes visitors more comfortable, more able to engage and, therefore, able to learn more effectively (Hein, 1998).

3.4. Policies

The constructivist museum should also consider itself as a learning organization that constantly improves its ability to perform as an interpreter of culture by critical examination of exhibitions and programs (Hein, 1998). To act as a learning organization, a museum should develop and foster: (1) a shared vision of its role and purpose; (2) initiative, team work and flexible approaches; (3) personal and professional improvement; and (4) openness to new ideas and approaches (MLA, n.d.). In order to examine that the museum practice corresponds to their policy decisions, museums have to constantly pursue the study of how visitors make meaning in the museum. Front-end evaluations are highly recommended to improve practice (Hein, 1998), and museums can use general learning outcomes specifically developed to measure the impact of learning across their museum (Hooper-Greenhill, 2004; MLA, n.d.).

The constructivist museum will have policies that prescribe its desire to reach a wide range of visitors (Hein, 1998). Museum policies must entail a full consideration of the interrelationship between education, collection and management policy. For example, if the constructivist approach is undervalued within the museum as organization, educational practices can conflict with the way of exhibition making. Such dislocation is confusing and destructive for visitors, because a constructivist approach sets up expectations for visitors in how to behave and what to do (Hooper-Greenhill, 1991, 1999, 2001). An educational innovation can only penetrate completely when there is a whole-system, sustainable reform (Fullan, 2007).

4. Conclusion

This contribution consisted of an exploration of the dominant contemporary discourse on learning in museum and its potential to meet a wide range of visitors' needs, interests and desires, and manage accordingly. Although this paper acknowledges the presence of other educational theories, a constructivist framework to meet contemporary museum learning was presented. This framework integrates four interacting and equal key areas (person, place, partnerships and policies) to promote visual arts mediation in order to fully consider the heterogeneity of the visitors, which presupposes different strategies from the museum staff. When these four key areas are organized according to constructivist learning principles, museum learning can be much more effective and stimulating. Benefits of such a framework are: the integration of existing frameworks to realize attention to the abundance of perspectives of a museum experience; the added value of a theoretically grounded visual arts mediation approach; and finally, the consideration of the entire museum to support museums' mediation strategies in all areas. This framework can inform and guide practice, but does not imply to change all visitors' relations with artworks into meaningful museum experiences.

One of the major impediments of the practical implementation of a constructivist approach is the fact that visitors come with such a broad range of interests and backgrounds that no single formula for motivating them to learn could possibly fulfill all needs (Csikszentmihalyi & Hermanson, 1995). Museum learning should be situated within an enlarged scope and scale to validly understand what is or is not learned form a museum experience. Understanding learning at that depth enables us to fundamentally intensify the quality of learning that occurs in these settings (Dierking, Ellenbogen, & Falk, 2004). Hein (1998) indicates that in spite of existing research resources, there is still insufficient knowledge of visitors' behavior and their learning processes to develop a constructivist museum in its entirety. Museums have also to contend with constraints of time, money and space (Hein, 1998). However, the framework presented in this paper can help the museum staff to remain constantly critical about what they are trying to achieve and why. Hence, this integrative framework has not only potential for museums as institution, but also for the way mediation strategies can be applied into other (museological) learning contexts. Further dissemination of constructivist applications in museums can therefore provide an added value for museums' own practices as well as education in general.

References

- Aguirre, I. (2004). Beyond the understanding of visual culture: A pragmatist approach to aesthetic education. International Journal of Art & Design Education, 23(3), 256-269.
- Allen, L. A. (1984). Basic concepts and assumptions about adult learners. In Z. W. Collins (Ed.), *Museums, adults and the humanities. A guide for educational programming* (2nd ed., pp. 73-78). Washington, DC: America Association of Museums.
- Anderson, D., Lucas, K. B., & Ginns, I. S. (2003). Theoretical perspectives on learning in an informal setting. Journal of Research in Science Teaching, 40(2), 177-199.
- Ansbacher, T. (1998). Learning in the museum [Review of the book Learning in the museum]. Curator, 41(4), 285-290.
- Ansbacher, T. (1999). Experience, inquiry, and making meaning. *Exhibitionist*, 18(2), 22-26.
- Arnheim, R. (1969). Visual thinking. Berkeley, CA: University of California Press.
- Brown, M., & Long, P. (2006). Trends in learning space design. In D. G. Oblinger (Ed.), *Learning spaces*. Retrieved November 15, 2012, from http://net.educause.edu/ir/library/pdf/PUB7102a.pdf.
- Buffington, M. L. (2007). Six themes in the history of art museum education. In P. Villeneuve (Ed.), From periphery to center: Art museum education in the 21st century (pp. 12-20). Reston, VA: National Art Education Association.
- Charman, H., & Ross, M. (2006). Contemporary art and the role of interpretation: Reflections from Tate Modern's Summer Institute for Teachers. International Journal of Art & Design Education, 25(1), 28-41.
- Csikszentmihalyi, M., & Hermanson, K. (1995). Intrinsic motivation in museums. What makes visitors want to learn? *Museum News*, 74(3), 34-37, 59-61.
- Davis, J., & Gardner, H. (1993). Open windows, open doors. Museum News, 72, 34-37.
- Dierking, L. D. (2002). The role of context in children's learning from objects and experiences. In S. G. Paris (Ed.), Perspectives on objectcentered learning in museums (pp. 3-18). Mahwah: Lawrence Earlbaum Associates.
- Dierking, L. D., Ellenbogen, K. M., & Falk, J. H. (2004). In principle, in practice: Perspectives on a decade of museum learning research (1994-2004). Science Education, 88(1), S1-S3.
- Doering, Z. D. (1999). Strangers, guests, or clients? Visitor experiences in museums. Curator, 42(2), 74-87.
- Eckhoff, A. (2011). Transformative partnerships: Designing school-based visual arts outreach programmes. International Journal of Art & Design Education, 30(2), 256-266.

- Everett, M. C., & Barrett, M. S. (2011). Benefits visitors derive from sustained engagement with a single museum, Curator, 54(4), 431-446.
- Falk, J. H., & Dierking, L. D. (1992). The museum experience. Washington, DC: Walesback Books.
- Falk, J. H., & Dierking, L. D. (2000). Learning from museums: Visitor experiences and the making of meaning. Walnut Creek: AltaMira Press.
- Falk, J. H., & Storksdieck, M. (2005). Using the contextual model of learning to understand visitor learning from a science center exhibition. Science Education, 89(5), 744-778.
- Frykman, S. G. (2009). Stories to tell? Narrative tools in museum education texts. Educational Research, 51(3), 299-319.
- Fullan, M. (2007). The new meaning of educational change (4th ed.). New York: Teachers College Press.
- Gardner, H. (1983). Frames of mind: The theory of multiple intelligences. New York: Basic Books.
- Gee, L. (2006). Human-centered design guidelines. In D. G. Oblinger (Ed.), *Learning spaces*. Retrieved November 15, 2012, from http://net.educause.edu/ir/library/pdf/PUB7102a.pdf.
- Goodman, N. (1978). Ways of worldmaking. Hassocks: Harvester Press.
- Griffin, J. (2004). Research on students and museums: Looking more closely at the students in school groups. *Science Education*, 88(Suppl. 1), S59-S70.
- Hein, G. E. (1998). Learning in the museum. London: Routledge.
- Hein, G. E. (2001). Constructivism: More than meaning making. In R. Toon & K. Pontin (Eds.), *Museological review*, 7 (pp. 1-17). Leicester: Department of Museum Studies, University of Leicester.
- Hein, G. E. (2007). Museum education. In S. Macdonald (Ed.), A companion to museum studies (pp. 340-352). Malden, MA, USA: Blackwell Publishing Ltd.
- Hein, G. E., & Alexander, M. (1998). Museums: Places of learning. Washington, DC: American Association of Museums.

Hooper-Greenhill, E. (1991). Museum and gallery education. Leicester: Leicester University Press.

- Hooper-Greenhill, E. (1999). Education, communication and interpretation. In E. Hooper-Greenhill (Ed.), *The educational role of the museum* (2nd ed., pp. 3-27). New York: Routledge.
- Hooper-Greenhill, E. (2001). *The museum as a teacher: the challenge of pedagogic change*. Retrieved November 22, 2012, from University of Leicester, Department of Museum Studies Web site: http://www.le.ac.uk/museumstudies.
- Hooper-Greenhill, E. (2004). Measuring learning outcomes in museums, archives and libraries: The learning impact research project (LIRP). International Journal of Heritage Studies, 10(2), 151-174.
- Housen, A. (1992). Validating a measure of aesthetic development for museums and schools. ILVS Review, 2(2), 1-19.
- Housen, A., & Yenawine, P. (2001). Guide to museum visits. Retrieved December 12, 2012, from http://www.vtshome.org/pages/articles-other-readings.

Kirchberg, V., & Tröndle, M. (2012). Experiencing exhibitions: A review of studies on visitor experiences in museums. Curator, 55(4), 435-452.

- Kolb, D. A. (1984). Experiential learning. Experience as the source of learning and development. Engkewood Cliffs, N.J.: Prentice Hall.
- Mathewson, D. (2006). A socio-cognitive model for learning in art museums: Establishing a foundation for cultural practice in the secondary school years. Unpublished doctoral dissertation, University of New South Wales.
- Mayer, M. M. (2005). A postmodern puzzle: Rewriting the place of the visitor in art museum education. Studies in Art Education, 46(4), 356-368.
- Mayer, M. M. (2007). Scintillating conversations in art museums. In P. Villeneuve (Ed.), From periphery to center: Art museum education in the 21st century (pp. 188-193). Reston, VA: National Art Education Association.
- McCarthy, B. (1990). Using the 4MAT system to bring learning styles to schools. Educational Leadership, 48(2), 31-37.
- MLA. (n.d.). Inspiring learning. An improvement framework for museums, libraries and archives. Retrieved November 24, 2012, from http://www.inspiringlearningforall.gov.uk/.
- Oblinger, D. G. (2006). Space as a change agent. In D. G. Oblinger (Ed.), *Learning spaces*. Retrieved November 15, 2012, from http://net.educause.edu/ir/library/pdf/PUB7102a.pdf.
- Paris, S. G., & Hapgood, S. E. (2002). Children learning with objects in informal learning environments. In S. G. Paris (Ed.), Perspectives on object-centered learning in museums (pp. 37-54). Mahwah: Lawrence Earlbaum Associates.
- Parsons, M. J. (1987). How we understand art: A cognitive developmental account of aesthetic experience. Cambridge: University Press.
- Rennie, L., & Johnston, D. (2004). The nature of learning and its implications for research on learning from museums. *Science Education*, 88(Suppl. 1), S4-S16.
- Roschelle, J. (1995). Learning in interactive environments: Prior knowledge and new experience. In J. H. Falk & L. D. Dierking (Eds.), *Public institutions for personal learning: Establishing a research agenda* (pp. 37-52). Washington, DC: American Association of Museums.
- Rounds, J. (Ed.). (1999). Special issue on meaning making. Exhibitionist, 18(2), 5-44.
- Rowe, S. (2002). The role of objects in active, distributed meaning-making. In S. G. Paris (Ed.), *Perspectives on object-centered learning in museums* (pp. 19-35). Mahwah: Lawrence Earlbaum Associates.
- Silverman, L. H. (1995). Visitor meaning-making in museums for a new age. Curator, 38(3), 161-170.
- Simon, N. (2010). The participatory museum. Santa Cruz, California: Museum 2.0.