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Medicine and the Museum: An Experiential Case Study in Art History Pedagogy and Practice

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Cover Page Footnote

This article, included in a special issue of this journal, demonstrates one of a variety of research methodologies appropriate to the Scholarship of Teaching and Learning in Art History. It is accompanied by a brief introduction addressing the author's goals and motivations for their choice of methods.

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Medicine and the Museum: An Experiential Case Study in Art History Pedagogy and Practice

Method: Quantitative Analysis

Author: Marcia Brennan, *Rice University*

Mentor: Joshua Eyler, *University of Mississippi*

SoTL Introduction

by Kelly Donahue-Wallace

The honor of being SoTL mentor to this project belongs to Dr. Joshua Eyler, who worked with Dr. Brennan to develop the article. Their collaboration was the product of an exemplary program at Rice University reported recently in the *Chronicle of Higher Education*.¹ This partnership allows SoTL scholars to partner with the university's Center for Teaching Excellence to avoid much of the bureaucracy surrounding teaching research. It is an approach that should, in my opinion, spread widely to promote excellence in teaching and learning.

Dr. Brennan's work brings research on observation training in medical student preparation to the undergraduate level and adds development of empathy, ethics, and self-care. She studied her own course that employed extensive discussions of displayed artworks, conducted at the museum, to develop skills useful for future medical careers. The research she presents here assesses whether students perceived her teaching methods to have improved their skills and understanding of observation, description, awareness of emotions, empathy, ethics, and self-care.

To make this assessment, Dr. Brennan employed a quantitative research method using a five-point Likert scale questionnaire. This questionnaire was completed as a pre-test at the beginning of the course and post-test at the end. Each question asked students to rank their own skills in the assessed categories from one ("poor") to five ("excellent"). Dr. Eyler administered and collected the questionnaires, and then he tallied the totals for each category assessed (observation, description, awareness of emotions, empathy, ethics, and self-care) and compared the results from the pre-test to those of the post-test. Where the numbers rose in the post-test—meaning that more students ranked themselves higher in the skill—the study suggested that the teaching method was effective.

Since Dr. Brennan's course discussions took place at the Museum of Fine Arts in Houston, museum educator Kelley Magill adds an appendix to this article. Her reflection on Brennan's work simultaneously places it within the broader context of museum/academic partnerships and personalizes it with her own observations as witness to the project.

¹ "Rice Eliminates the Red Tape to Encourage Research on Teaching," *Chronicle of Higher Education* 65:8 (October 26, 2018). Available at <https://www.chronicle.com/article/Rice-Eliminates-the-Red-Tape/244825>.

**Medicine and the Museum:
An Experiential Case Study in Art History Pedagogy and Practice**

Marcia Brennan, *Rice University*, with Joshua Eyler, *University of Mississippi*,¹
and appendix by Kelley Magill, *Museum of Fine Arts, Houston*



Figure 1: Jean-Baptiste-Camille Corot, *Orpheus Leading Eurydice from the Underworld*, 1861, oil on canvas, Museum of Fine Arts, Houston, Museum Purchase funded by the Agnes Cullen Arnold Endowment Fund

¹ Joshua Eyler was Executive Director, Center for Teaching Excellence, Rice University during the preparation of this article and is currently Director of Faculty Development & Director of the ThinkForward Quality Enhancement Plan, University of Mississippi.

Working with Treasures: The Class Experience

“This is one of the most exquisite paintings I’ve ever had the privilege of teaching with. Everyone, please look carefully at this artwork. It is Jean-Baptiste Camille Corot’s *Orpheus Leading Eurydice from the Underworld*, of 1861, in oil on canvas (Figure 1). The work is by a French landscape painter who is often characterized as a forerunner of the Impressionists. Yet as we discussed in the classroom, the subjects of this painting also resonate strongly with C. S. Lewis’s brief memoir of grief and loss, *A Grief Observed*, which was published exactly a century later, in 1961. As for the painting’s mythologically-inspired subject matter, here we see the legendary musician, Orpheus, entering the underworld to lead his beloved wife, Eurydice, back from the land of the dead to the realm of the living. Just as this quest ultimately proves to be impossible, the painting presents a moving meditation on heartbreak and loss. If we approach Corot’s painting in light of Lewis’s personal reflections, then we have a comparative mode for envisioning what it can mean to be with someone in spirit. Now that you’ve had a chance to look closely at the painting, please tell me: What is striking to you about this image?”

So begins a session of “Medicine and the Museum: Clinical Aesthetics and the Museum of Fine Arts, Houston” (MFAH), an intensive undergraduate seminar that I teach at Rice University. Each week we begin in the classroom, where I provide a brief art historical overview of the artists and themes we will be examining that day, and we discuss related issues that arise in the accompanying readings. Then as a group, we walk over to the Museum of Fine Arts, Houston, where the class is conducted in front of an original artwork. Sometimes students will begin by offering technical descriptions of the piece itself, particularly as they observe crucial yet subtle details that are visible in the galleries, but which are completely lost on a PowerPoint slide. On other days, students will be drawn to the connections they perceive between historical artworks and issues that arise within a contemporary healthcare context. Whatever the subject may be, the conversation soon takes on a life of its own, as students gaze at the museum’s treasures, listen intently to one another, and formulate their own insights on a range of intricate, challenging subjects. We always learn from one another, and a collective intelligence soon emerges that is far more powerful and creative than anything any one of us could have formulated on our own.

Rice is ideally situated to facilitate such collaborations. The campus is poised between the MFAH—an internationally distinguished universal survey museum²—and the Texas Medical Center (TMC), the largest medical complex in the

² Regarding the museum’s institutional history and holdings, see <https://www.mfah.org/>.

world.³ All are connected by Houston's METRO light rail service, and they are in ready walking distance of one another. Notably, Rice does not have a medical school. While the university features a strong School of Humanities, the institution emphasizes a STEM (Science, Technology, Engineering, Mathematics) curriculum. Indeed, for the past several years, the majority of my students have been STEM majors and/or pre-medical students.⁴

Within this educational context, I seek to reach broadly across the campus by offering courses in which art historical subjects and interpretive strategies are brought to bear on selected topics in medicine and the medical humanities. These multidisciplinary classes include not only "Medicine and the Museum", but seminars on "Life at the End of Life" and "The Humanities of Care". All of the courses have been developed with the input and insights of the Rice undergraduate community, and each provides an opportunity to extend the humanities into practical domains that address difficult areas of modern life. Thus the classes engage issues that are applicable to everyone, and which are particularly appropriate for students planning to enter healthcare professions or who, one day, will serve as caregivers.

With its significant holdings in Classical, Old Master, Modern, and Contemporary art, the MFAH's permanent collection readily lends itself to such initiatives and the course learning outcomes. Throughout "Medicine and the Museum" we practice key skills relating to visual acuity, observation and analysis, and the formulation of precise descriptive language. Throughout the class, we practice these skills together, by spending extended time discussing objects in the museum galleries. Students also practice these skills individually, as they focus on select artworks in their writing assignments. As the class unfolds, attention is increasingly devoted to identifying subtle and intangible presences—such as suggestive reflections, composite shadows, compositional imbalances, and the strategic use of absences. We also practice developing strategies for reconciling multiple—often conflicting—points of view. Claude Monet's water garden imagery readily lends itself to such discussions of elusive subjects, while Pablo Picasso's experiments in Analytical Cubism serve as case studies in negotiating compound perspectives.

³ According to the official website of the Texas Medical Center, this complex annually accommodates ten million patient encounters, as well as over one-hundred-eighty-thousand surgeries, and seven-hundred-and-fifty-thousand emergency room visits. See: <https://www.tmc.edu/about-tmc/facts-and-figures/>.

⁴ When I taught "Medicine and the Museum" during the Spring of 2019, the total enrollment demand was 200%, as twenty-four students competed for the twelve available slots. Ultimately, ten of the twelve students who enrolled were STEM students and/or pre-medical majors.

Such a deep engagement with the museum's formally and thematically complex artworks helps students to become more attuned to the emotional issues that arise in caregiving, while also recognizing the significance of empathy and ethics when encountering vulnerable populations. At the level of gendered corporeality, the class examines idealized conceptions of human embodiment by comparing classical Roman nudes with conceptions of beauty, desire, and pleasure found in our contemporary culture, imagery that continues to inform developments in plastic, cosmetic, and reconstructive surgeries. During this session we also consider the ways in which such typologies can function as sources of oppression for those who do not conform—or seek to conform—to such idealized standards and patterns.

We then analyze the ways in which the body can appear, not only as a source of aesthetic pleasure, but as a locus of pain and suffering. We compare the imagery of war and trauma in Constant Mayer's monumental Civil War painting, *Recognition: North and South* (1865), with the discussions of human rights violations found in Elaine Scarry's classic text *The Body in Pain: The Making and Unmaking of the World* (1985). Extended time is devoted to discussing, not only the meanings of such key terms as similarity and difference, self and other, living and dying—but to encouraging students to account for how they know what they are seeing (i.e., the criteria through which such sensitive concepts are formulated and reinforced), and how they know what they are feeling at the affective level (i.e., cultivating the capacity to account for their own emotional responses).

Subsequent weeks focus on specific segments of vulnerable populations, beginning with Mary Cassatt's images of children and their caregivers in *Susan Comforting the Baby* (1881), and *Children in a Garden (The Nurse)* (1878). From pediatrics, we proceed to geriatrics by contrasting Gustave Caillebotte's tender image of his elderly maiden aunt, *Mlle. Boissière Knitting* (1877), with Jessica Nutik Zitter's Academy Award-nominated short documentary film *Extremis* (2017), which examines the dilemmas associated with life-sustaining technologies and life and death decision making in the Critical Care Unit. We then consider the plight of workers who repeatedly put their bodies at risk through physical labor. Édouard Manet's painting *The Toilers of the Sea* (1873) is paired with selections from Pietro di Donato's novel *Christ in Concrete* (1937), and with Rita Charon's *The Principles and Practices of Narrative Medicine* (2017), a text that details how the processes of listening, witnessing, and storytelling can serve as instrumental modes for engaging unequal power dynamics and for cultivating the elements of humility that are integral to ethical forms of care.

Our class concludes with sustained reflections on human mortality and transition. This inquiry extends from Damien Hirst's postmodern take on the classic *memento mori* theme, *End Game* (2000-2004), to issues of spirituality and transcendence inspired by James Turrell's site-specific installation, *The Light Inside* (1999). In our final class session, students discuss their individual research projects, and they share their thoughts on the value of humanistic subjects for fields outside of the humanities. We also consider the ways in which the museum can serve as a resource for further learning, and for self-care. As the students often note, the practice of regularly visiting the museum makes them aware of a rich institutional resource, one that they might not have explored otherwise. These experiences also provide a level of comfort and familiarity with the institution, while fostering awareness of the types of subjects and themes to which they are inherently drawn, and to which they can return to find sources of inspiration, curiosity, peace, and joy.

Today, numerous medical schools incorporate various types of museum-based learning experiences within their medical pedagogy.⁵ Yet my experiences at Rice have shown me the great value in offering such a sustained engagement with these complex subjects at the *undergraduate* level. Indeed, part of the innovation of the course concerns its point of intervention at a critical juncture within pre-medical and pre-graduate school education. In turn, my students have noted that our thematic seminars often become topics of discussion during their medical school interviews. One of the students who participated in both "Medicine and the Museum" and "Life at the End of Life" told me that, when she interviewed with a group of medical students, they expressed their own wish that, during their undergraduate years, they had had a greater appreciation of the amount of soul-searching that it takes to serve others, especially in the very demanding ways that they seek to be of service. This student then shared with me that doing such intensive soul-searching herself during our seminars helped her to align her scientific training with her personal values and the type of care she ultimately wishes to deliver.⁶ As you can imagine, such intense exchanges are meaningful not only for the students, but they have made me a better teacher and scholar, as well.⁷

⁵ Regarding the value of such interventions in honing medical students' skills in observation and visual acuity, see S. Naghshineh et al., "Formal art observation training improves medical students' visual diagnostic skills," *Journal of General Internal Medicine* 23 (7, July 2008): 991-97. (PMCID:pmc2517949 PMCID:PMC2517949)

⁶ I am grateful to Eugenia Kakadiaris for sharing these personal reflections.

⁷ In addition to the students, this work would not be possible without the support of generous colleagues, including Joshua Eyster, who served for several years as Executive Director of Rice's Center for Teaching Excellence, and Kelley Magill, who, as University Programs Specialist for the MFAH, facilitates object-based learning within higher education. They have my deepest thanks.

How Do We Know that the Teaching is Effective? Methods and Metrics

Two separate surveys were distributed in both the 2018 and 2019 sections of the course to assess student perceptions of the effectiveness of this teaching. Students completed the first survey, which we are calling the “pre-test” (see Table 1), during the first course session of the semester. They were then asked to complete the “post-test” survey (see Table 2) on the last session of the semester. 25 total students took the pre-test, and 21 responded to the post-test. The difference in these totals is due to the fact that one student who was enrolled in the 2018 section did not complete the post-test, and the 2019 section included one auditing student who did not take the post-test as well as two students who dropped the course after completing the pre-test. These numbers are consistent with typical Humanities enrollments at Rice. The average number of students in these courses is 13, though many courses enroll far fewer than this.⁸

Both surveys were comprised of the same set of items, and students were asked to respond to each statement using a five-point Likert scale ranging from “Poor” to “Excellent” with “Good” serving as the mid-point category. The items contained in the surveys were as follows:⁹

1. I consider my ability to make detailed visual observations to be:
2. I would characterize my ability to formulate descriptions of complex subjects to be:
3. I would describe my current level of awareness regarding the emotional issues that arise in caregiving to be:
4. I would characterize my current level of the understanding of the importance of empathy to be:
5. I consider my current level of sensitivity to ethical concerns to be:
6. I consider my current level of understanding of the ways in which museums can serve as tools for continual learning and self-care to be:

⁸ The source for this information is the “Quick Facts” section of <https://humanities.rice.edu/>.

⁹ There was a seventh item as well—“I believe that the Humanities have value in enhancing and enriching the study of non-humanistic subjects, especially STEM (Science, Technology, Engineering, Mathematics) fields”—but it used a different five-point Likert scale that ranged from “Strongly Disagree” to “Strongly Agree” with “Neutral/No Change” as the mid-point category. Many of the students who took the course were STEM majors or double-majors, but they also likely enrolled due to their inherent interest in the subject or in the Humanities more generally. Indeed, 100% of the students selected either “Agree” or “Strongly Agree” in both the pre-test and post-test. Because of this selection bias, we have decided not to use the data from this part of the survey in our analysis.

Is the Teaching Effective--Results

Table 1: Combined Results of Pre-Tests from Spring 2018 and 2019 sections					
25 total responses for each item	Poor	Fair	Good	Very Good	Excellent
I1 I consider my ability to make detailed visual observations to be:		2	11	11	1
I2 I would characterize my ability to formulate descriptions of complex subjects to be:		5	13	6	1
I3 I would describe my current level of awareness regarding the emotional issues that arise in caregiving to be:	1	4	5	14	1
I4 I would characterize my current level of the understanding of the importance of empathy to be:			1	14	10
I5 I consider my current level of sensitivity to ethical concerns to be:		1	7	17	
I6 I consider my current level of understanding of the ways in which museums can serve as tools for continual learning and self-care to be:	2	11	8	3	1

Table 2: Combined Results of Post-Tests from Spring 2018 and 2019 sections					
21 total responses for each item	Poor	Fair	Good	Very Good	Excellent
I1 I consider my ability to make detailed visual observations to be:			2	15	4
I2 I would characterize my ability to formulate descriptions of complex subjects to be:		1	3	16	1
I3 I would describe my current level of awareness regarding the emotional issues that arise in caregiving to be:			3	10	8
I4 I would characterize my current level of the understanding of the importance of empathy to be:				6	15
I5 I consider my current level of sensitivity to ethical concerns to be:			3	9	9
I6 I consider my current level of understanding of the ways in which museums can serve as tools for continual learning and self-care to be:			2	9	10

Discussion of Results

As is evident from the tables cataloguing the results of the pre- and post-tests, positive gains were made on each of the outcomes represented by the items. This itself is an indication of the efficacy of the pedagogy, but there is more to the story. Items 1 and 2 are connected to goals that are fairly common to most art history courses. There are significant gains on these two items, to be sure, but they cannot be viewed in isolation from the other items. Indeed, it is precisely because of the interaction between these attributes and the remaining items of the survey, which deal very specifically with intellectual and affective outcomes for the course, that the results of the study are significant.

The biggest gains can be found in items 5 and 6, both of which are tied to the specific outcomes for STEM and pre-medical undergraduates explored earlier in this article. The development of ethical sensitivities and an understanding of museums as tools for both learning and self-care can be directly connected to the course's emphasis on observational skills and on self-reflection.

It is certainly possible that these gains in student learning could be operator-dependent or instructor-dependent or that they may have to do with the amount of time, energy, care, and kindness that any teacher is able to devote to the class and to their students. This study did not use a control group, so it is impossible to rule this out. Similarly, it cannot be ruled out that student self-selection into the course contributed to their growth in all of the areas the study considered. However, it does not appear that these factors outweigh the intentional emphasis on both observational skills and affective development built into the course structure. Because the course focuses on both of these areas simultaneously, students demonstrably grew as empathetic viewers of art objects and of the human condition. The latter of these, especially, is vital for future health professionals as they conclude their undergraduate career and embark on a lifetime of helping patients to heal.

Appendix: Object-Based Learning in Medical Humanities: The Museum Perspective¹⁰

From the perspective of a museum educator and art historian who specializes in object-based learning for university audiences, the impact of “Medicine and the Museum” on student learning is highly relevant. In particular, I find the positive gains in students’ understanding of the ways in which museums can serve as tools for continued learning and self-care (item 6) to be meaningful for the work of museum educators with higher education audiences. The blended in-class and in-gallery experiences that Marcia Brennan designed for the course exemplify a valuable method for extending on-campus learning to the museum space.¹¹

By analyzing texts, reproductive images on slides, and original works of art at the MFAH all within a single class session, “Medicine and the Museum” students had the opportunity to compare the experiences of engaging these diverse resources and learning spaces. In the MFAH galleries, Brennan would ask students to describe how the experience of observing an original work of art was different than seeing it in reproduction in the classroom. With this prompt, students noted the details they had not been able to see or appreciate in the reproduction. They demonstrated a heightened awareness of the materials and texture of the object. They described its physical presence in the gallery space and how it impacted

¹⁰ Thank you to Marcia Brennan and Josh Eyler for the invitation to collaborate and respond to their work in dialogue with my own experiences developing medical humanities curricula at the MFAH. I am also grateful to my colleagues in the Department of Learning and Interpretation at the MFAH for their collaboration in developing and facilitating object-based curriculum for medical students. In particular, I acknowledge and greatly appreciate the many contributions made to this work by: Jennifer Beradino, Senior Manager Object Based Learning; Caroline Goeser, W. T. and Louise J. Moran Chair of Learning and Interpretation; and Rita Whiteman and LuAnn Turley, who serve as object-based learning educators and who have been invaluable collaborators in co-teaching medical humanities programs with me at the MFAH. This work has also been made possible through the partnership of insightful and generous colleagues and partners from UT Health and Baylor College of Medicine, including: Rebecca Lunstroth, Assistant Professor & Associate Director, McGovern Center for Humanities & Ethics at the University of Texas Health Science Center (UT Health); Bhavika Kaul, MD, 2017-2018 Chief Medical Resident, MD Anderson Cancer Center, Baylor College of Medicine and Clinical Fellow, Pulmonary and Critical Care Medicine, University of California, San Francisco; Stacey R. Rose, MD, FACP, Director of Clinical Sciences Curriculum, School of Medicine, Baylor College of Medicine; and Andrew Childress, PhD, Assistant Professor, Center for Medical Ethics and Health Policy, Baylor College of Medicine.

¹¹ For further models of interdisciplinary, museum-based pedagogy in university curricula, see Steven S. Volk and Liliana Milkova, “Crossing the Street Pedagogy: College Art Museums to Leverage Significant Learning across the Campus” in *A Handbook for Academic Museums: Exhibitions and Education*, eds. Stefanie S. Jandl and Mark S. Gold (Edinburgh: MuseumsEtc, 2012): 88-115; and Helen J. Chatterjee and Leonie Hannan, eds., *Engaging the Senses: Object-Based Learning in Higher Education* (Burlington, VT: Ashgate, 2015).

them as viewers. Brennan framed the students' engagement with objects in the art museum as essential to their learning experience and their reflective practice. These issues may become especially relevant and pressing in an era of telemedicine. I suspect that the foundational role of the art museum experience in the course's curriculum contributed to the meaningful changes in the students' understanding of the ways in which museums can serve as tools for learning and self-care as demonstrated in the pre-test and post-test responses.

In addition to this collaboration with Rice, the MFAH partnered with faculty in medical, dental, and nursing education, and developed specialized curricula and museum experiences for healthcare professionals.¹² In this context, Brennan's learning goals for "Medicine and the Museum" and her approach to "working with treasures" closely align with my own goals and practice in object-based teaching and learning in pre-medical and medical school curricula. As colleagues, we agree that the opportunity to teach and learn through the abundant resources and infrastructure provided by a renowned encyclopedic collection like the MFAH is a rare privilege for educators and students alike. However, we recognize that it would be valuable to investigate how the teaching methods and research structures described here could be utilized in other settings, such as university art collections, library special collections, or public art sites. Object-based learning in large encyclopedic museums, as well as in more intimate collections, present unique opportunities for educators and students alike.

In my practice at the MFAH, I have found that the shared experiences of observing, investigating, and appreciating a work of art cultivates collaborative learning, and this process challenges participants to evaluate multiple perspectives rather than privileging a particular interpretation or narrative. These occasions for skill development, community building, perspective taking, and self-reflection demonstrate the ways that art museums can serve as meaningful learning spaces, not only for undergraduate students such as Brennan teaches at Rice, and for the medical students that the museum engages through its programming, but for learners and professionals across multiple disciplines.

¹² Program descriptions and sample syllabi from the MFAH's elective courses and programs in partnership with UT Health and Baylor College of Medicine are included in an online collection of "Resources for Art Museum and Medical School Partnerships," organized by Edith O'Donnell at the Institute of Art History at UT Dallas, <https://www.utdallas.edu/arhistory/medicine/resources/>