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“The Artmedicine Education Model (AM-EM) and Observation Method” (AM-OM): their Use in Medical Education.

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Purpose.

To study the use of “The Artmedicine Education Model” (AM-EM) and “The Artmedicine Observation Method” (AM-OM) in the learning of clinical information by medical students.

“The Artmedicine Observation Method.”

I devised the “Artmedicine Observation Method” that integrates art and science: neuro-cognitive concepts of how the brain processes stimuli from images, with artistic concepts of image creation.(Espinel,1995,1996, 1998, 2002, 2003).

Artmedicine Education Model (AM-EM).

My AM-EM course teaches clinical information in all medical specialties ranging from dermatology to neuroscience using: 1. an interactive approach 2. images that integrate scientific information with images of art. And 3. the “Artmedicine Observation Method” to examine the images.

22 first- and second-year medical students volunteered for the study over a 2-year period. 15 students took the semester-long Artmedicine Education Model (AM-EM) course and 7 the Traditional (T) course. Each class lasted 1 hour and provided 50 facts of various medical specialties. The data reported are those from the classes on the specialties of neurology, rheumatology and dermatology. All students were tested with 10 multiple-choice questions extracted from American Board Certification, at the end of a 1-hour class, at 1 week, 1 month, 3 months and at 6 months later. The scores shown are the average of 3 classes and 3 specialty subjects.

Results

Medical Students’ Average Scores

	Traditional (N=7)	Armedicine (N=15)	Significance P Value
Baseline	25	26	NS
1-hour	69	74	P<.075
1-week	60	72	P<.001
1-month	51	72	P<.001
3months	43	64	P<.001
6months	39	63	P<.001

There were significant changes over time: $F(2, 100) = 184.34$ ($p < .001$) and between groups: $F(1, 20) = 1247.70$ ($p < .001$). There was a significant change in groups by time interaction: $F(5, 100) = 18.88$, $p < .001$. The t test showed significant differences between groups at each point in time except baseline and at one hour. At one hour, the difference between groups approached significance ($t(20) = 1.90$, $p < .075$). Although both groups significantly increased their knowledge at the one-hour evaluation, there was a slight advantage for the Artmedicine group that approached statistical significance. Further, only the AM group retained their knowledge over time, with the Traditional group showing an increasingly large decrement of tested knowledge relative to the AM group with increased passage of time.

Conclusion.

My “Artmedicine Education Model” and “The Observation Method” are shown to be beneficial in the teaching of clinical information to medical students. These innovations in medical education enhance learning and retention of information.

References.

- Espinel CH. 2002. The “Autonoetic Hypothesis in Creativity” and Pollock’s abstract art. Proceedings of the Cognitive Science Society, 2002.
- Espinel CH. 1998. Art and neuroscience: how the brain sees Vermeer's "Woman Holding a Balance". The LANCET 352(9145):2007-9.
- Espinel CH. 1996. de Kooning's late colours and forms: dementia, creativity, and the healing power of art. The LANCET 347(9008):1096-8.
- Espinel CH. 1995. Masaccio's Cripple: A Neurological Syndrome: its art and medicine. The LANCET 346(8991/8992):1684-1686.
- Espinel CH. 2002. The Portrait of Breast Cancer and Raphael’s “La Fornarina”. The LANCET, 360(9350):2061-63.
- Espinel CH. 2003. La Fornarina: Breast Cancer or not. The LANCET 361(9363):1129.