

## ESSAY

## Medical doodles: 30 minutes well spent

When we think of medical students learning, we think of them listening to lectures and taking reams of notes. Not so for many visually inspired learners. A recent survey of medical students indicated that more than 50% expressed a strong preference for multiple modes of information delivery, including visual, auditory and kinesthetic.<sup>1</sup> A case in point is Michiko Maruyama, a second-year University of British Columbia medical student with an undergraduate degree in industrial design who incorporates art-making into her daily learning routine. In the following interview, I explore the role imagery and art-making play in her note-taking, learning, studying and her plans for integrating art into her practice.



Michiko Maruyama

Four daily doodles illustrating a variety of anatomical, histological and clinical concepts.

**Can you describe your background prior to entering medical school?**

“I completed a degree in industrial design at the University of Alberta. The program was “project” driven. We were trained to look at the system as a whole; we looked at what works and where there were design problems.”

**What was the transition like from your industrial design background into medical school?**

“I was afraid [going into medicine] I would lose my creative side. I’ve always done art and never taken a big break. I worried that if I stopped I would go to a canvas and not be able to imagine anything there. I didn’t want to lose my artistic ability to express my emotions — in other words to be an artist.”

**Did that happen?**

“Quite the opposite, I have never felt so artistic. I am focusing on art differently. It’s like I regained my artistic flair. Before medical school art was my profession. I did art for my clients; in medical school I do art for myself and for my learning.”

**Can you describe how art-making and imagery have contributed to your learning in medical school?**

“I don’t take traditional notes during lectures, I am afraid I will miss something when I am writing. Instead I pay close attention, then jot down key words, for example words I am not familiar with or a new main topic. In the evening I take an hour to reflect and write down what I learned.

I compare that to my list of key words, looking to see where the holes are, it’s a way to self check. Then I imagine how to put it all together to form an image that best represents what I learned. After I get that visual I put on the timer for 30 minutes and I use pencil crayons to draw my “daily doodle” on a 3” × 5” index card.”

**What is the significance of drawing for exactly 30 minutes?**

“It is easy with art to keep going. Initially I was told I was “wasting time” on drawing when I should be studying. My initial response was that it was not

a waste of time since I was doing what I enjoy while I studied. [The comment] made me conscious of time so I set a timer and did my drawing efficiently in 30 minutes.”

**Do these daily doodles play a role in reviewing material or studying for exams?**

“Yes definitely. When I look at the daily doodles they trigger my memory. I can take myself back to the time when I was reflecting and drawing the doodle. I also remember what I did that particular day.”

**You could argue that it is the self-reflection, not the drawing, that is promoting your recall.**

“Actually, last year during one week I stopped doodling, however, I still maintained the reflection and I wrote even more notes in the traditional way. That was the one week that I had difficulty in remembering [the material]. It was the only week my grades dipped during the course.”



Michiko Maruyama

Daily doodle summarizing a workshop learning to use needles (on fruit) and lecture on metastasis of cancer to the liver via portal vein.

Siegel<sup>2</sup> describes the process of moving between text and imagery as transmediation and notes that it promotes reflective and generative thinking. Sunni Brown defines doodling<sup>3</sup> as “to make spontaneous marks to help yourself think” and Andrade<sup>4</sup> contends that doodling enhances verbal information retention. Does this resonate with you?

“For me the doodles generate links between different concepts, they fill in gaps of knowledge. It’s not until I doodle that I think about how everything comes together. When I look at the doodles they have all this meaning.

When I doodle I find out what I know and what I don’t. I catch details that I wouldn’t have been aware of. There is a difference between looking at a prepared [textbook] drawing and going to a blank piece of paper and creating an image. [When I draw] I have to figure out what pieces go where and how things interact.”

**Do others benefit from your daily doodles?**

“I began to post the daily doodles on my Facebook page along with a title and a short description of what I learned that day. Facebook friends [medical students from across Canada] began to tag the doodles adding labels to the various anatomical structures. Students added comments to my Facebook page saying that they used the doodles as a way to study. One student told me that during her exam she just visualized one of my doodles in order to remember a particular concept.”

**How do you hope to integrate art into your practice as a doctor?**

“I hope to integrate industrial design into medicine by making medical tools and developing procedures and techniques. This past year one of my preceptors challenged me to develop a better tenaculum [a device that stabilizes the cervix during insertion of an IUD (intrauterine device)] that would not cause pain and bleeding.

I also want to explore the value of art in communication. I’d like to sit with my patients and communicate with art, draw what is happening to develop a common level of understand-



Michiko Maruyama

Examples of Michiko’s key word lists.

ing. I am also illustrating children's books focused on medical topics as a way to educate with art."

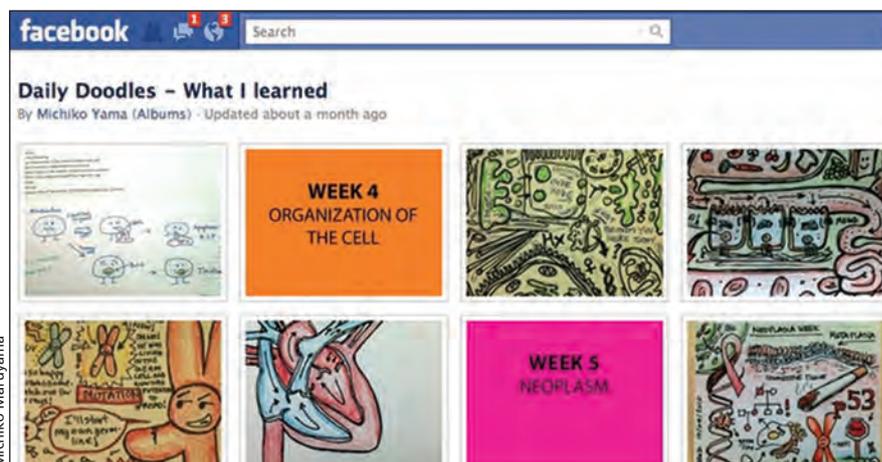
**How have artist-doctor role models inspired you?**

"I have had three important physician role models: Dr. Andrew Seal (surgeon-artist), Dr. Jaap Hamburger (cardiologist-composer) and Dr. Sean Robinson (urologist-designer). They are people to talk with and discuss the challenges I face. Through them I learned that other artist-doctors are successful in both disciplines. To hear that is inspiring."

"Hearing more from my fellow students who have artistic talents is also very helpful."

**Linking art-making, identity and learning**

To summarize, Monrouxe<sup>5</sup> suggests that a medical student's personal identity can either facilitate or constrain their professional identity formation. Students that find positive ways to integrate their personal identity into their profes-



Screen capture of Michiko's Facebook page with a selection of daily doodles.

sional identity are more likely to avoid what Costello<sup>6</sup> calls "identity dissonance," and its associated, potentially disruptive behaviors. Maintaining one's personal identity as an artist during medical school, however, is not without its potential barriers. Lee and Graham<sup>7</sup> found that the stress associated with a very demanding curriculum was amplified by what they called "relaxation guilt," associated with creating opportunities to relax (by art or any other

means). Reinforcing the link between art-making and learning, however, provides a rationale for encouraging its use throughout training. This can be done by exposure to physician-artist role models or student-artist mentoring groups.

It seems to me, in medical school, being able to successfully combine learning with stress release, and at the same time exercising one's creativity is a very good use of 30 minutes a day spent with a dozen coloured pencils.

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**References**

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Michiko's end product: key word list, plus "What I learned" plus daily doodle (physiology of gastric secretion and peptic ulcer disease).