

Nature of Science and Math Assignment

<https://www.sciencedaily.com/releases/2017/12/171214144533.htm>

For my assignment, I chose to focus on the effect art has on the brain. In this article, Drexel University has completed a study on how “Coloring books make you feel better, but real art therapy much more potent.” The argument Drexel University is stating is how, “many adult coloring books claim to be art therapy and can reduce negative feelings, but art therapists are significantly more impactful” (Coloring books make you feel better, but real art therapy much more potent. 2017). As a music specialist, I enjoyed hearing about how art can affect the mind and be used to soothe oneself. However, it is vital to this technique of therapy to be used appropriately and not simply as a band-aid to the troubled mind.

The Science Practices of NOS include “Developing and using models, Analyzing and interpreting data, Constructing explanation, and Engaging in argument from evidence” (The Nature of Science in The Next Generation Science Standards., pg. 1-2, 2013). Engaging in an argument from evidence from the NOS is definitely prominent. Just the title is very intriguing and makes the reader to go deeper into the why of this study. They took a group of 29 participants ranging from 19 to 67 and put them through each exercise; one focusing on coloring in a pattern or design without the help of the therapist and two with the therapist engaging with the participants and even working on their own work. This event also connects with the CCMP of Construct viable arguments and critique the reasoning of others. It states, “They are able to

analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others” (“Standards for Mathematical Practice”) Analyzing and interpreting data was used by having each participant take a standardized test before and after their session to measure their stress levels. After reviewing their pre and post data, stress levels went down by at roughly the same levels for both exercises (10 percent for coloring; 14 percent for open studio). Negative mental states also showed similar decreases in levels (roughly a 7 percent decrease for coloring; 6 percent for open studio) (Coloring books make you feel better, but real art therapy much more potent. 2017). They also concluded with a 7% increase in self-efficacy, 4% increase in creative agency, and 25% increase in positive feelings. Constructing explanations for this study concluded stated “while coloring did help alleviate bad feelings, it didn’t create good feelings in the way that actual art therapy might” (Kaimal, G., 2017).

I think after reviewing the NOS standards, my question is where are the systems of models being used in this study? A majority of the evidence given by the study seems to be measuring how subjective creating art can do to the mind. I think it is difficult to measure in this study how they are feeling because as an audience, we don’t know the process or are given specific examples of the art they are creating and how those feelings could change depending on the environment, age level, and the number of participants involved. I would like to see what evidence they can pull from other similar studies and compare, contrast, and find patterns in their data. I would also like to see if the participants took a brain scan, what new evidence they could find. That kind of data would help support the CCMP as well.

References:

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