

Makerspace

According to Gardner's multiple intelligences there are several intelligences with a broad application in education. One of them is kinesthetic intelligence, which applies while students work with projects. Makerspace requires different activities. Three dimensional printers enable students and instructors to apply different projects according to their needs. As a math teacher, my attention will focus on mathematical observation on constructing different figures.

In general, there are many projects that would attract our attention. An example might be creating different basic geometrical figures, and analyzing their properties. For instance, we might create a pyramid, and observe its components. Each student will have a chance to see the pyramid's components such as: four triangles and base (quadrilateral).

After we identify all properties of our mini pyramid, we can measure triangles and quadrilaterals. We may take the given information and apply mathematical formulas that describe triangles and quadrilaterals. Also, we calculate the volume of the pyramid traditionally. Moreover, we compare and contrast our traditional results with computer results of our pyramid.

Another action will pay attention to the golden mean. A practical example of golden mean is found in Giza's Pyramid. Golden mean is present at triangles, quadrilaterals, pentagon, hexagon, etc. The class might observe a geometrical figure at times.

Exploring golden mean in pyramids requires creating several pyramids by using a three dimensional printer. One of the pyramids possesses the golden mean, and others do not. When we analyze the golden mean at the pyramid, we need to find the ratio between the height of the pyramid and its base. Also, we should examine the golden mean in each of the pyramid's components (triangles and quadrilaterals).

Geometrical figures with the golden mean look beautiful. The big question emerges, which pyramid looks the most beautiful. The answer will come from students who observe and participate in the lesson with spacemakers. Probably, students would agree with the fact that the pyramid with golden mean is the most beautiful.

Learning to construct figures with respect to geometry enables students to find different solutions. Some of the solutions may be something new to everyone. Consequently leads us to creativity, which is the goal of advanced education.

References

What is a Makerspace? www.makerspace.com