

Recruitment Tools of the Future

Dr. Snjezana Balaz, Morgan Weinreber, Victoria Woods, RJ Yarwood

Department of Physics and Astronomy, Youngstown State University, Youngstown, OH

Find a way to utilize 3D printing technology to print trinkets demonstrating a STEM principle. A good way to achieve this goal is to design more engaging and interesting tools for recruitment than the conventional items used now. These new tools would also need to be cost effective compared to the current promotional items.

Idea One: a geometric puzzle
 -Not very cost efficient
 -Little Bulky

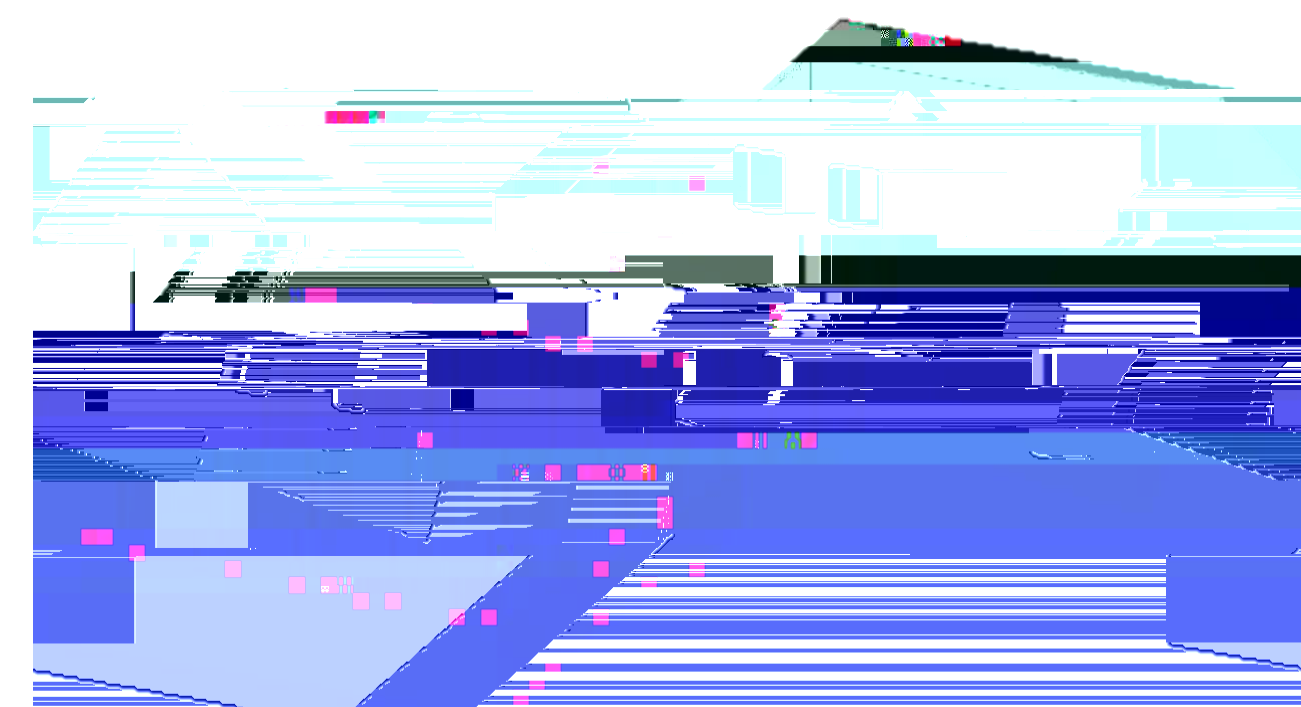


Figure 1: Geometric puzzle design

Idea Two: a coin that would spin and show a "Y" in the center
 -Not very cost efficient
 -Problems displaying the Y
 -Tried shifting the weight to different point on the circle to no avail



Figure 2: Spinning coin design

Idea Three: a "Tippe Top"
 -Initially not very cost effective
 -3 different masses
 -Shifted the center of mass
 -2 different types of material



Figure 3: Initial "Tippe Top" designs

1. Printing our designs with a variety of materials and manufacturing techniques
2. Deciding what materials and techniques fit our project goal best and refined our designs.
3. Narrowed our designs from 3, to 1.

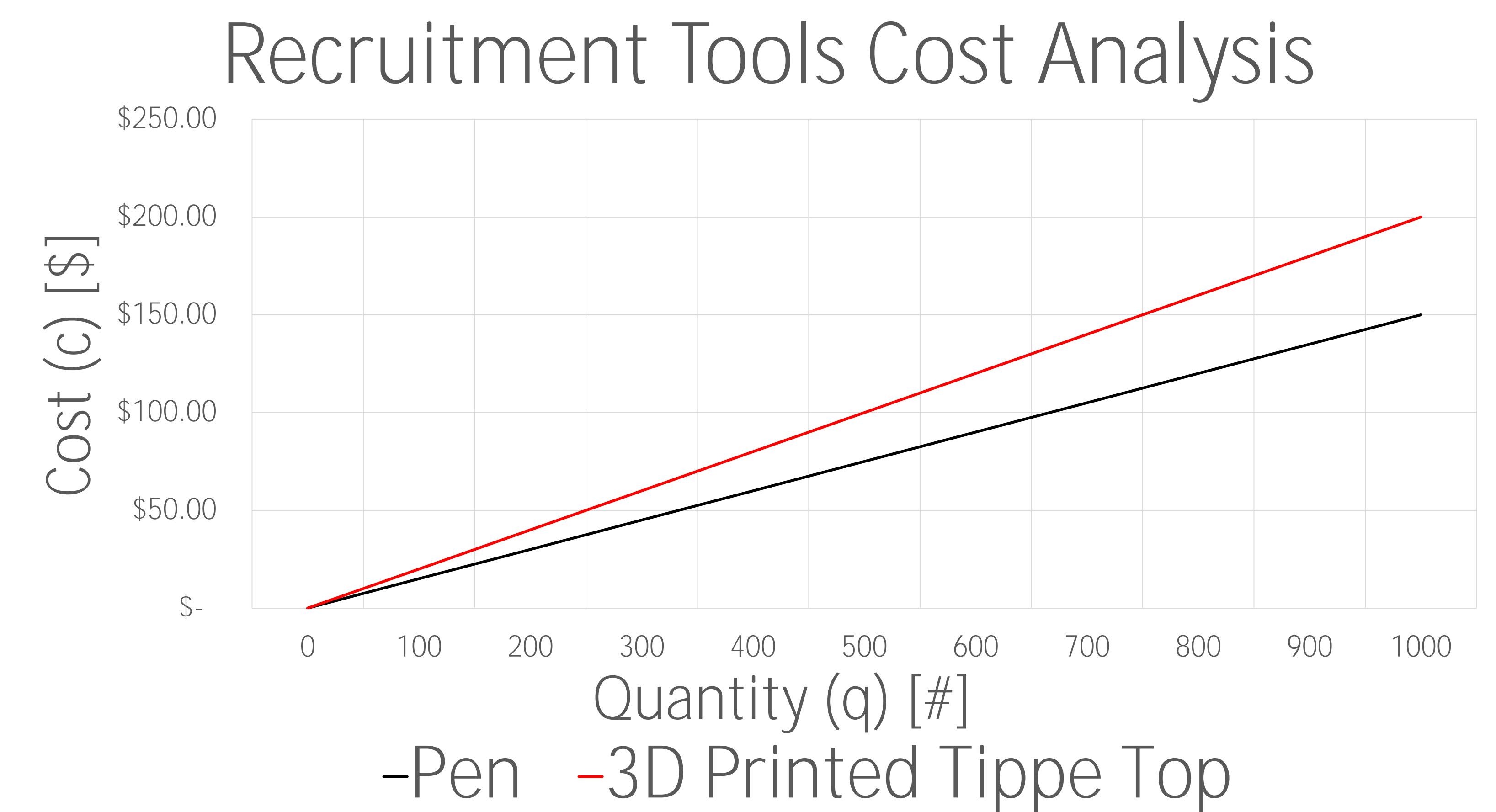


Figure 5: Cost analysis chart

This concept leaves a lot of room for improvement in the future. While 3D printing may not be the best solution right now, it is a very exciting concept. One of the largest flaws is the inability to mass produce in a timely manner. This coupled with the fact that it is about on par in terms of cost compared to current promotional items, means that 3D printing might not be the answer currently but is definitely something to watch in the future.



Figure 4: Final design

