



# Heating Up Virtual Instruction: Teaching Hand Motion Techniques for Virtual Welding Using Hot Glue and Flipgrid

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## Introduction

- Interactive activities are key to engagement in a virtual class (Cavinato et al., 2021).
- The purpose of secondary career technical education (CTE) is to create a skilled, agricultural workforce (Rich, 2020).
- Teaching of agriculture mechanization skills must occur in any environment to meet demand for skilled laborers (Lunceford, 2020).

## How it Works

- Students manipulated weld puddles through variation of motion techniques using Gas Metal Arc Welding (GMAW).
- GMAW equipment was replaced with a hot-glue gun and hot-glue sticks.
- Students used Flipgrid to record participation in activity and upload with the class.

## Results

- Students stated that using hot-glue guns can also be used to learn the basics of welding in an introduction to welding course.
- Use of hot-glue gun eliminates the initial fear of sparks, fumes, and electricity that occurs during normal welding process.

## Recommendations

- This activity can be conducted using video conference platforms; however, it works best with interactive platforms.
- In addition to a virtual meeting, we recommend using the interactive platform of Nearpod.
- Utilize colored hot-glue sticks in addition to colored work pieces to increase visibility of the puddle manipulation.

## Flipgrid

- An online platform allowing students to record and post videos
- The teacher creates a class & assignment that the students access using a code
- The instructor can easily see student engagement and comprehension

## Materials & Cost

- All participants will need access to technology and internet.
- The total cost of supplies will range between \$7-\$20 per set – hot-glue gun, hot-glue sticks, material to “weld” and access to Nearpod for each participant.