

### Introduction

Most Maker Learning happens in the context of math or science classes. It might not seem to fit literature instruction, but we found a niche for it within the study of a novel that could enliven the classroom experience for our boys and help them engage to a greater degree. The 9<sup>th</sup> Grade English unit on *All Quiet on the Western Front*, a novel about the harsh realities of trench warfare in WWI, provided us the perfect opportunity to test our hypothesis.

### The Research Question

How can the physical recreation of trench warfare during the study of *All Quiet on the Western Front* improve 9<sup>th</sup> Grade boys’ understanding of the novel?



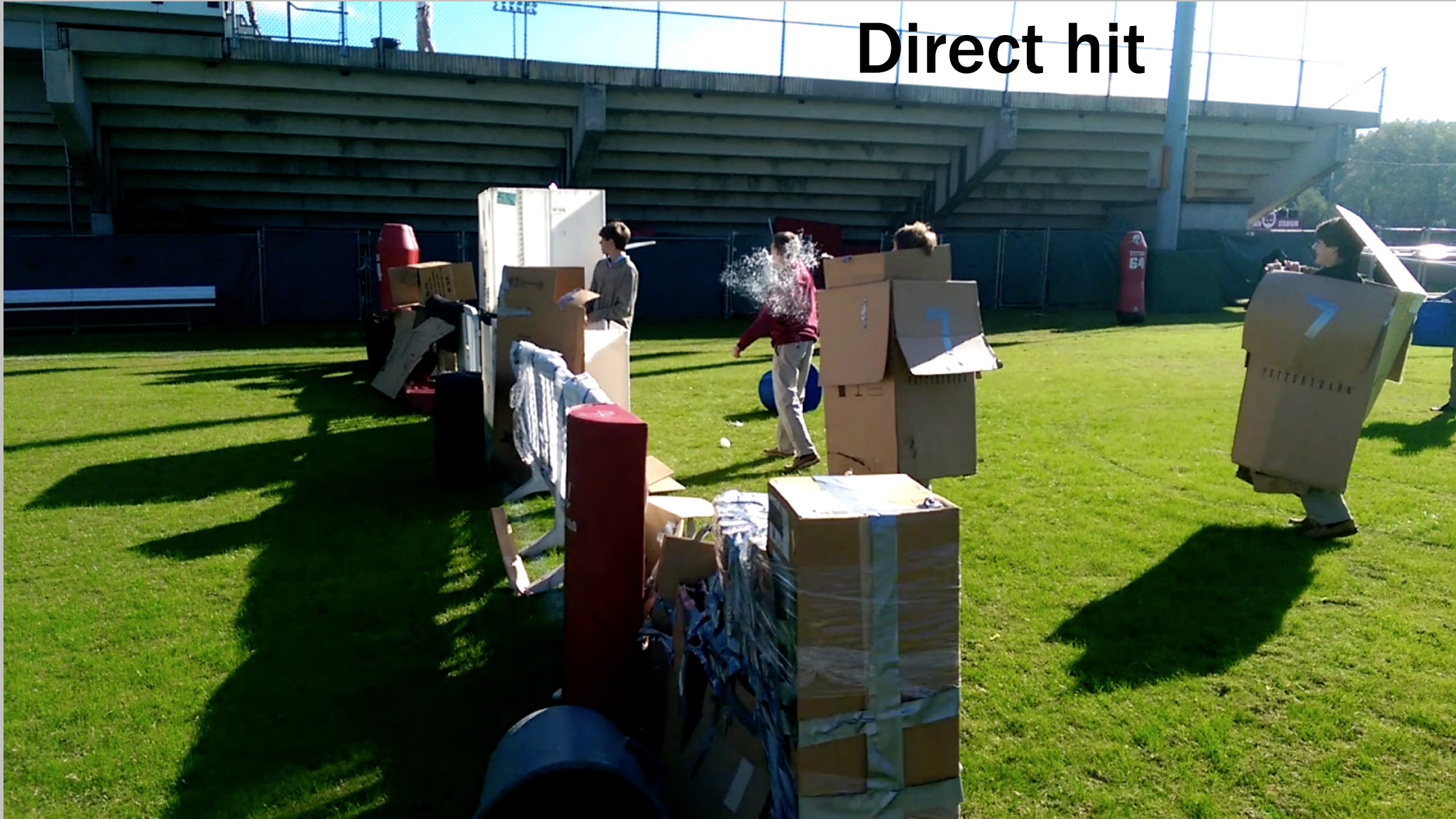
Testing the turret

### Research Context

Montgomery Bell Academy enjoys a 148-year history as a college preparatory school for 700 young men in Grades 7-12, offering a progressive approach to traditional education. MBA provides for its students a determined balance among academics, athletics, and fine arts.

### Participants

This action research project involved 28 9<sup>th</sup> Grade boys who were enrolled in Mr. Reynolds’ English literature course. Having two separate classes allowed us to create the battle dynamic which was central to the project’s success.



Direct hit

### The Research Action

What: Trench Warfare between two 9<sup>th</sup> Grade English classes

Why: Promoting critical thinking about themes in the novel *All Quiet on the Western Front*

How: Maker Learning by constructing makeshift trenches from household and found materials

Five Main Themes at Issue: Disillusionment, Camaraderie, Nature of War, Authority, Heroism

Where: Outdoor battle experience to test maker defenses and weapons against the reality of war

### Data Collection

Pre-Battle	During Battle	Post-Battle
<ul style="list-style-type: none"> <li>Planning Session video Footage</li> </ul>	<ul style="list-style-type: none"> <li>Drone video footage</li> <li>Handheld video footage and photos</li> </ul>	<ul style="list-style-type: none"> <li>Student Questionnaire</li> <li>Debriefing Notes</li> <li>Socratic Seminar and Essay</li> </ul>



Run away! Run away!

### Data Analysis

We gathered our data into a spreadsheet organized by each of the major themes of the novel. By compiling the data into these categories, we were able to assess how the project affected the boys’ understanding of each theme. We also added a column for data pertaining especially to the tenets of the Maker Movement (e.g. physical making leads to critical thinking).



Surprise attack from above

### Key Findings and Discussion

Our action highlighted all of the novel’s five major themes, just as we had hoped. However, the boys’ comments and actions revolved largely around the three themes of disillusionment, camaraderie, and the nature of war. Below are some comments from the boys themselves that relate to each of these themes.

Disillusionment:

- “Our dreams were crushed from the start.”
- “I've been preparing my butt off, just to get pelted with water balloons?”
- “I did not realize what was going on, like a recruit. The water balloons came out of nowhere and were a complete surprise just like the bombardments in the novel.”
- “We just did not know what was going on did we?”
- “Wait, what?”
- “The confusion was real.”
- “If we had known that we were gonna get pummeled by balloons, we would have prepared differently .”
- “I felt betrayed; I felt deceived and quite angry.”
- “We were prepared, but not for what really was going to happen. We thought we knew what was going to happen, but in reality we were sitting ducks.”
- “You lied to us!”

Camaraderie:

- “When I got hit and Parker ran away, I felt alone.”
- “ We formed friendship by working together and protecting ourselves when we were hit by the water balloons.”
- “When I ran away when Wesley got hit by a water balloon, I didn't have time to mourn.”

Nature of War

- “We were expecting to fight the other side, but the balloons came — much like the soldiers who first faced gas.”
- “I felt the surprise attack was not cool. War is Hell and it's never what you expect. We were basically the recruits from the novel, not prepared for any real combat.”
- “No matter how safe you feel, there is always a way to get killed. You never know when an attack is coming or what it will be. “

### Conclusions

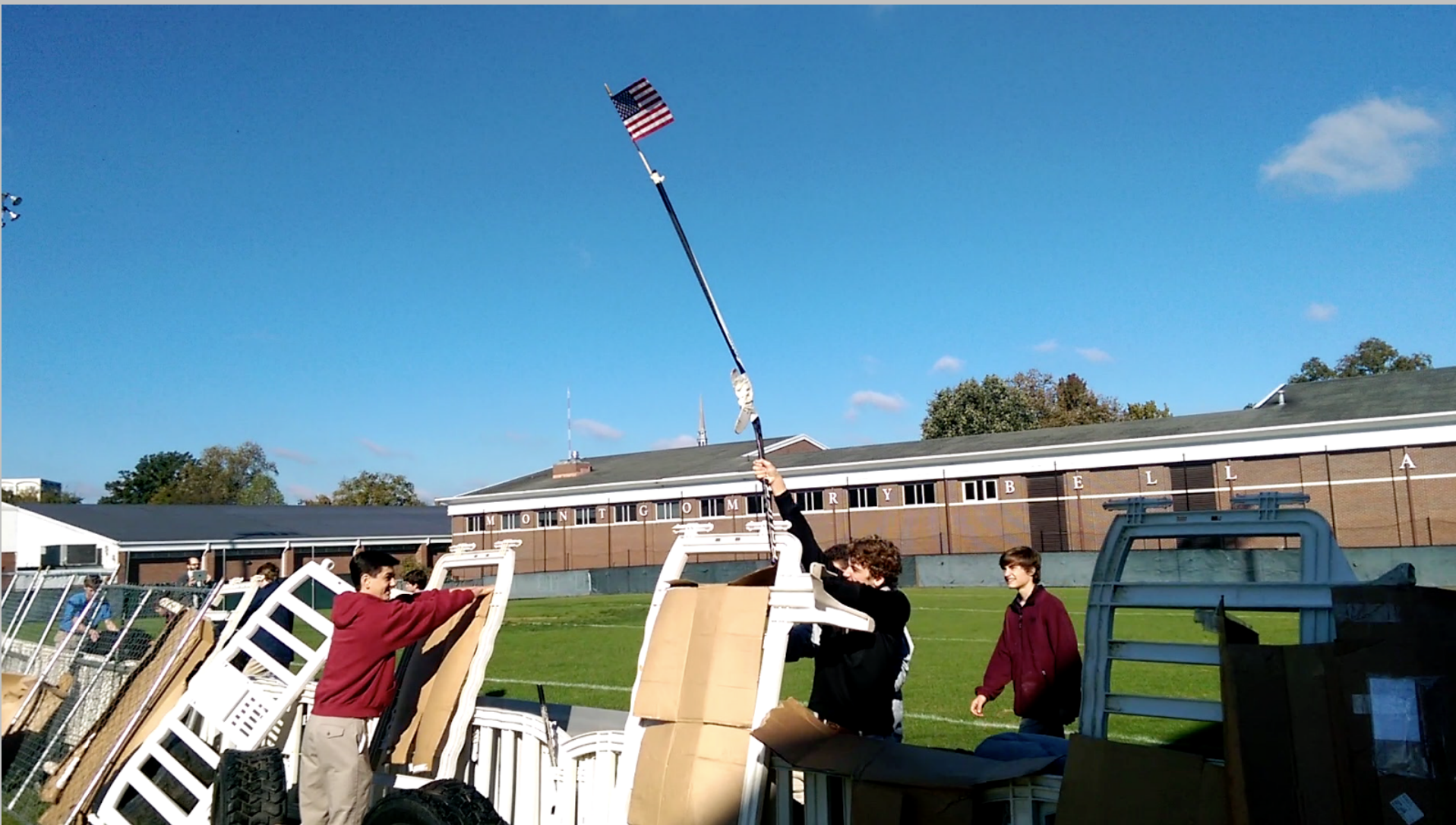
The battle reenactment using student-made trench structures pulled the boys into the tactile phenomena of war. Their high level of engagement in the project made the lesson stick, as they demonstrated in essays and conversations days and weeks after the battle. They seemed to discover a clear connection between our reenactment and their study of the novel, especially how vulnerable an investment in war can make its participants, in terms of the physical risks, the psychological toll, and the moral dilemmas. Several of the boys used evidence from their experience in their analytical essays. The value of physically constructing mock war materials helped them become more immersed in the setting and themes of *All Quiet on the Western Front*.



You lied to us!

### Key Readings

Crawford, M. B. (2009). Shop class as soulcraft: An inquiry into the value of work. New York City, NY: Penguin Books.  
Hatch, M. (2014). The maker movement manifesto: Rules for innovation in the new world of crafters, hackers, and tinkerers. New York: McGraw-Hill Education.  
Martinez, S. L., & Stager, G. (2013). Invent to learn: Making, tinkering, and engineering in the classroom. Torrance, Calif.: Constructing Modern Knowledge Press.  
McNiff, J. (1995). Action research for professional development. Bournemouth: Hyde Publications.  
Stringer, E. T. (2014). Action research (4th ed.). Thousand Oaks, CA: SAGE.  
Wilkinson, K., & Petrich, M. (2013). The art of tinkering: Meet 150+ makers working at the intersection of art, science & technology.



### Further Information

This poster and further information is available at <http://www.theibsc.org/>.  
Researchers’ Email Addresses:  
[elijah.reynolds@montgomerybell.edu](mailto:elijah.reynolds@montgomerybell.edu)  
[robbie.quinn@montgomerybell.edu](mailto:robbie.quinn@montgomerybell.edu)