

Using Virtual Reality to Enhance Sports Performance

Introduction

- Virtual Reality
 - Virtual reality is the use of electronic equipment to simulate an environment where a user can interact in a real physical way. Virtual reality gives the user the sense that they are physically apart of the virtual environment.
- Oculus
 - Oculus VR is an organization that produces headsets to create a virtual reality for its user. The headset fits like goggles where a screen is displayed right in front of the users' eyes. The headset uses headtracking so that when the user looks up, down, or to either side the picture adjusts as if the user is actually standing in the virtual environment.



Literature Review

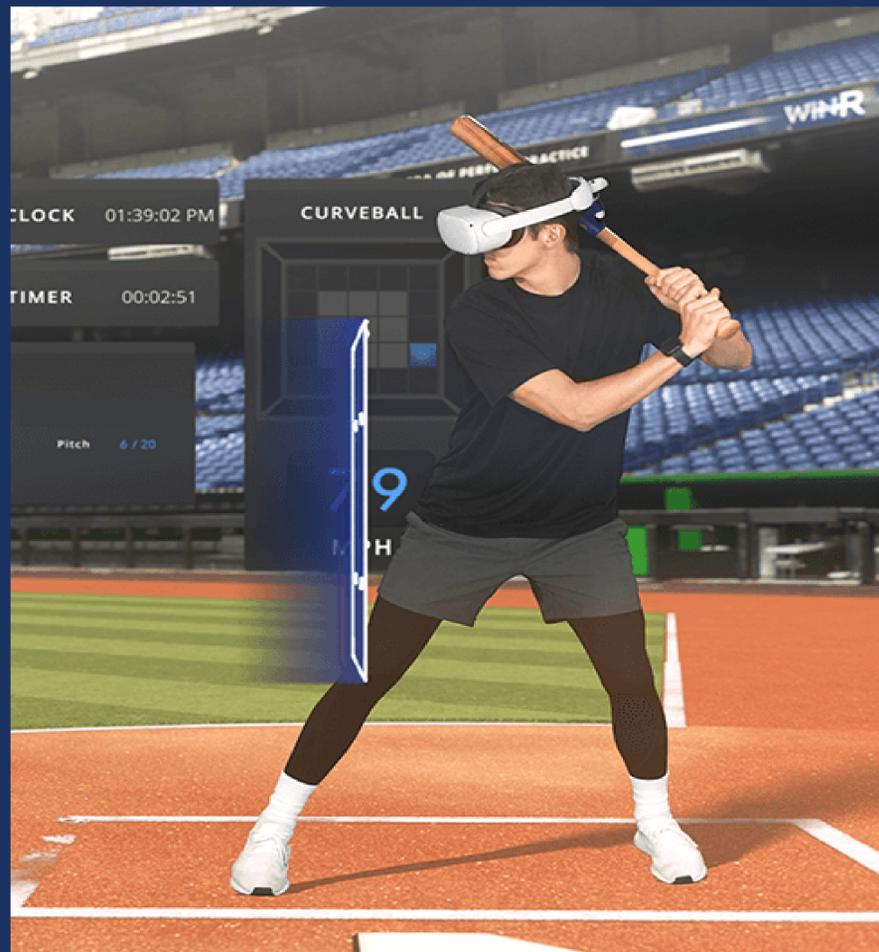
- Virtual reality training improves players real-life sport skills in the sport of table tennis (Umali 2019).
- Virtual reality-based training helps improve balance performance and functional mobility in healthy people (Donath 2016).
- The National Basketball Association found that training with virtual reality helps to improve coordination in players.

Project Overview

- This pilot investigating was designed to evaluate the WIN Reality program using Oculus, as a method of potentially improving hitting performance in college aged softball players.
- WIN Reality was used by players of the ECSU Softball team at least once a week during their preseason practices.
- The intent of this investigation is to see if the players performance improved due to using the virtual reality device through qualitative analysis.
- Statements from players who used the device were recorded.

Results

- “WIN Reality helps me to understand the strike zone better in relation to where I stand in the box”
- “Using the virtual reality device helped me to see how the ball spins and moves depending on which pitch is thrown. Now I am more likely to identify what pitch they throw me in a game.”



Discussion

- The statements collected from this pilot investigation tell us that using virtual reality has potential to help enhance sport performance.
- Results from this investigation appear to support evidence in the literature
- Subjects in this investigation report feelings that support the findings investigated by (Umali 2019).

Conclusion

- Consistent use of virtual reality has potential to enhance players performance in the sport of softball, specifically pitch recognition which is crucial to be an above average hitter.
- Future Direction: The results from this investigation validate the need for a more thorough quantitative investigation on the sport performance improvements seen due to practicing using virtual reality.