



Batter Up: Baseball and STEM

A Visit to the William Paterson Human Motion Research Lab

William Paterson University
College of Education



Batter Up

The Batter Up grant is a joint effort between William Paterson University's College of Education and the National Park Service, Paterson Great Falls National Historical Park. Batter Up focuses a lens on the Negro Leagues, baseball teams of Black and Latinx players who, because of segregation, were banned from playing in major league baseball in the first part of the twentieth century.

While one aspect of the grant deals with civil rights and social justice, another uses the Negro Leagues to provide high school students with lessons in STEM (Science Technology Engineering and Math).



Batter Up and STEM

Planning for the STEM component of Batter Up began pre-pandemic, and a visit to Dr. Jason Wicke's Human Motion Research Lab in William Paterson's Department of Kinesiology was originally to take place in the 2019-2020 school year. Then, sadly, in March 2020, the world changed. However, perseverance prevailed, and the visit finally took place on March 9, 2023.

Paterson Eastside High School student-athletes, accompanied by Professor in Residence Dina Scacchetti, Physical Education Supervisor Clarissa Adams, and Athletic Guidance Counselor Quatarra Benjamin, visited Dr. Wicke's lab. Paterson Great Falls National Historical Park Manager Ilyse Goldman, Park Guide Bernard Trubowitz and Community Volunteer Latyf Parson came to observe the activities.



The visit began with a presentation by Dr. Wicke. Kinesiology was defined, possible careers associated with it were presented, and concepts such as Motor Learning were discussed.



The student-athletes moved on to a laboratory, where they performed several tests designed to measure reaction time, the time between the presentation of a stimulus and the response to that stimulus.



Two of Dr. Wicke's students assisted the Eastside students with the activities, Ms. Giuliana Pocino and Ms. Kerry Deckert. Here Ms. Pocino provides encouragement and advice in one of the reaction time activities.



The students performed successive trials at each station, recording the results each time. After each trial, students exchanged places.



Students rotated through the various stations. At the right Paterson Physical Education Supervisor Clarissa Adams observes and provides encouragement.



Making observations and collecting data is not enough. Analyzing the data is a must.



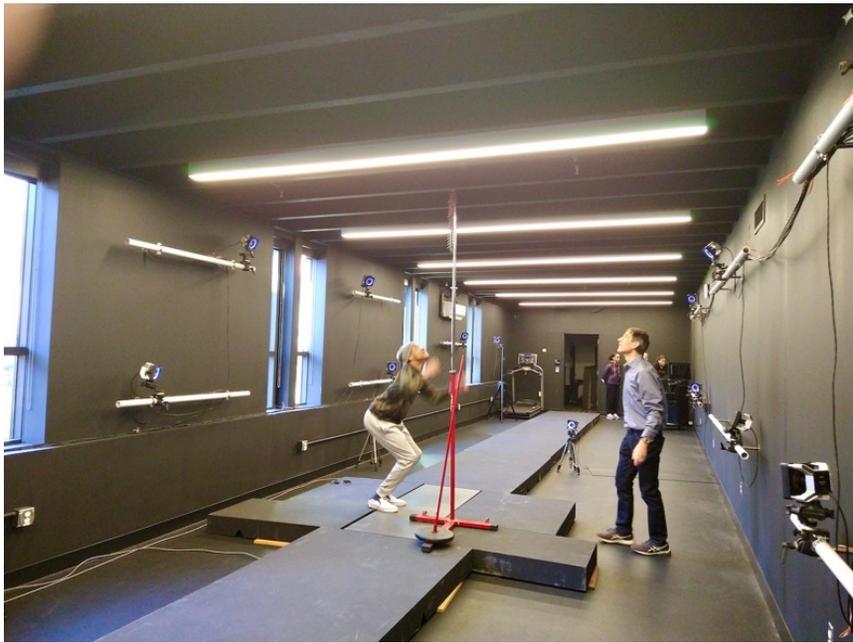
Here students look over the results of their activities, determining who had the fastest and most accurate results, while Dr. Wicke and his assistant look on.



Moving to another lab, the students were able to observe and test out the anti-gravity treadmill. At the right, Paterson Great Falls Park Ranger Ilyse Goldman records the event.



Students also measured their vertical jumping ability. The student at the right is a member of Eastside's State Championship Basketball team—and it shows!



WIP

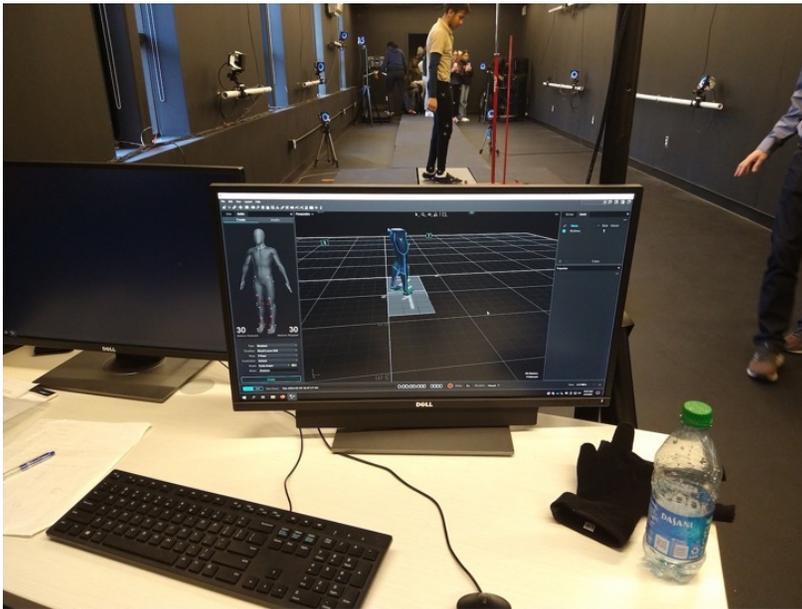
Motion capture can show exactly how a person is moving and provide data on one's biomechanics. Here an Eastside student volunteer has markers placed by Ms. Pocino and Dr. Wicke.



Cameras interact with the markers and the information is encoded and transmitted to a computer.



The results of the motion capture are visible on the computer monitor
The student-volunteer looks at the image of his efforts.



Once again, it is not enough to gather data—it is important to answer the question, “What does the data tell us?”. Here students gather around Dr. Wicke to look at the results.



The visit by the Paterson Eastside student-athletes to the Human Motion Research Lab illustrates the strong connection among the College of Education's Professional Development Schools network, its long-time member Eastside High School, and Paterson Great Falls National Historical Park.



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