1125-I5-2949 **Tyler Skorczewski*** (tskorczewski@cornellcollege.edu), 600 First Street SW, Mt. Vernon, IA 52314. *Modeling learning in youth archery.*

The National Archery in the Schools Program (NASP) began in Kentucky in 2003 and has rapidly expanded to several states to reach thousands of student archers from elementary school through high school. In an NASP tournament, student archers using standardized equipment shoot 30 arrows that each score between 0 and 10 (bullseye) giving a maximum tournament score of 300. While scores are an excellent metric to rank archer ability, they are a very limited measure of how well an individual archer is learning and improving. In this project we use archer data and a differential equation based model of a learning curve to quantify archer learning in a way independent of scores and to help us identify best practices in coaching archery. Moreover, it has the advantage of requiring very little prerequisite knowledge of students (calculus and statistics), which makes it an excellent candidate for individual student research projects and an early introduction to applied mathematics and data science. (Received September 20, 2016)