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## **A Systematic Pedagogy to Increase Goals to Shots on Goal for Soccer Athletes (Experimental Design and Phase I - Pilot Study)**

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**Author Notes:** Ferriss Roberts is a varsity soccer student athlete pursuing in a Bachelors of Science in Management. Also, she is a University Research Scholar. Michelle Demko, a former University of Maryland soccer student athlete, has been an assistant coach at North Carolina State University and the University of Nebraska before becoming the head coach at UNC Asheville. She has played professionally for both national and international teams in the WUSA and Frauen Bundesliga. Jimin Lee, Assistant Professor of Statistics, has published a significant number of articles in international journals and conference proceedings. Donna Parsons is in the process of finishing her Ph.D. degree at Saint Mary's University, Halifax Nova Scotia. As well as publishing in numerous business articles, she has published articles in international industrial engineering journals and proceedings. Robert Yearout, Professor of Industrial Engineering and Management has published a significant number of articles in international journals and conference proceedings and has been the recipient of several teaching, research, and service awards. The researchers would like to express their thanks to Sergeant Curtis Jones, Asheville Police Department, for determining the accuracy of the ball speed measurements.

**Abstract:** During the Fall 2011 season UNC Asheville Women's Soccer program had the highest number of shots-on-goal of any Big South conference team. The ratio of goals scored to shots-on-goal was 20% which was the lowest percentage in the conference and well below the international average (30%). The purpose of this research is to devise a training program that will improve the goals to shots-on-goal percentage by targeting the far corner posts rather than the goal's center. Phase I of the study (Spring 2012) was to develop and test a systematic program to improve goals to shots-on-goal. Results revealed that the training program design does have continuous improvement potential. This phase of the experiment revealed actual game data category weaknesses that will be modified for Fall 2012. The authors project that 2- 6% improvement in goals to shots-on-goal could significantly improve the 2012 record.

**Keywords:** Soccer, Shot on Goal, Goals Scored