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*Regular vs. Goofy, Evaluating Footedness*

The sport of snowboarding requires that the participant stand sideways with their feet fixed to a board in bindings and face downhill. To help a beginning snowboarder decide which stance [foot forward] to start with, snowboard shops and instructors use a variety of dry-land tests, but the tests are not conclusive. Many times the tests suggest a particular footedness that isn't comfortable for the snowboarder as they slide down the mountain or skate through a lift line. This is a very important decision for a new snowboarder and can greatly impact their first experiences on the slopes. The goal of this project is to build a device to investigate the possible correlation between a snowboarder's balance and stance preference. To investigate this problem, the Footedness Evaluation System (FES) was constructed using an offset pivoting balance board representing the average size and stance width of multiple sizes of snowboards. Mounted to the board was the Data Acquisition System which measures and records the acceleration of the board as test subjects attempt to balance it. Twenty-one test subjects were tested on the FES over a one minute trial in both their stated preferred stance and in the opposite stance. It was hypothesized that the stance with the least amount of movement measured by the FES would match the subject's stated preferred stance; after analyzing the data this was only true in 38.1% of the test subjects. Though the results were contradictory of the hypothesis, with more experimentation and refinement the FES could someday provide ski shop employees a quick effective way to determine the proper stance of beginning snowboarders.