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Funding Source: CAFNR Undergraduate Research Internship

Eye Place this Class: Testing an instructional intervention on eye movement of novice livestock evaluators

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Novices often miss details easily visible by experts. Sight is personal; coaches cannot see where and how students focus. This project compared eye movement of livestock evaluators before and after a short workshop on how to evaluate livestock. Researchers placed eye-tracking glasses on high school students without livestock evaluation experience. Students wore the glasses and analyzed a heifer picture, received a 30 minute workshop on evaluation, then reevaluated the same heifer. Researchers analyzed paired data from 7 students using Tobii Pro Lab, then used SPSS to calculate descriptive data and paired t-tests for the first 10 seconds of data on interval, fixation, and saccade video data.

Researchers rejected null hypotheses on three comparisons. Average participant duration of fixations was significantly longer during the post-test. Students had significantly less fixations during the posttest; posttest minimum peak velocity of saccades were significantly higher than pretest. All significant differences had a *large* effect size. Researchers failed to reject the null for duration of interval, total duration of fixations, duration of first fixation, maximum peak velocity of saccades, time to first saccade, and peak velocity of first saccade.

Researchers analyzed aggregated heat map and gaze plot data. Preworkshop student attention focused on the head, neck, and lower belly. Post workshop, students shifted attention to structural concerns in rear quarter. Post gaze data also indicated intentional focus on the shoulder and no attention to the head.

Researchers conclude the workshop positively impacted the location of attention, duration of fixation, reduced number of fixations and faster movement between fixation locations. Eye tracking technology has great potential in helping coaches to understand how students view tasks and provides an opportunity for coaching and assessing attention.