Using the ‘Think Aloud’ Method to Inform Skinfold Instruction in Exercise Science
Carly N. Goodine, Alexandra R. Brosky, Madison A. Van Savage, Cole W. Bridge, Steven D. Verba, Jeffrey S. Lynn, Michael E. Holmstrup
Slippery Rock University, Slippery Rock, PA

Skiifold measurement is a valid, economical method of body composition assessment, however, it has a steep learning curve. The ‘Think Aloud’ method allows insight into cognitive processes that underlie the completion of complex tasks through participant verbalization. **PURPOSE:** The present study was undertaken to quantify procedural and cognitive characteristics of skinfold measurement. **METHODS:** Following an introduction to ‘Think Aloud’, seventy-five Exercise Science undergraduates with varied curricular exposure performed a seven-site skinfold assessment on a female test subject. A trained practitioner recorded procedural observations, and transcripts were generated from session audio recordings. **RESULTS:** Participants who measured all seven sites (n=62) had each site compared to standard measures (via criterion anthropometrist). Bias scores were generated. Participants whose total bias fell within ±22mm (±3.5%) of the standard were proficient (PRO; n=25), with the remainder nonproficient (NON; n=37). An independent samples t-test was used to compare procedural and cognitive observations across groups. Large deviations in measurement were noted between PRO and NON for the chest (2.6±1.7 vs. 5.7±2.7mm), abdominal (2.0±1.6 vs 4.4±2.5mm), and thigh sites (1.7±1.2 vs. 4.7±2.7mm), while both groups had difficulty with the suprailiac site (9.5±1.7 vs. 10.7±3.2mm). PRO were significantly more likely to utilize anatomical landmarks (88.0 vs. 64.9%; P<0.05) and a confident grasp (88.0 vs. 40.5%; P<0.05). Likewise, PRO completely verbalized the chest (44.0 vs. 16.2%; P<0.05), midaxillary (100.0 vs. 70.3%; P<0.05), suprailiac (48.0 vs. 16.2%; P<0.05), and abdominal landmarks (60.0 vs. 27.0%; P<0.05) compared to NON. **CONCLUSION:** Specific sites (e.g. suprailiac), procedural (e.g. landmark identification) and cognitive skills (e.g. complete site explanation) were identified that can be highlighted during targeted instruction in the future.