Using the 'Think Aloud' Method to Inform Skinfold Instruction in Exercise Science

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Skinfold 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.