**Australian Assistive Technology Conference- 2018**

**Abstract Submission**

AT-Node: An Evidence-Based Database to Synthesize Text Entry Performance of Computer and AAC Control Interfaces

Many individuals with disabilities use assistive technology (AT) control interfaces to enter text into computers and augmentative alternative communication devices. Selecting the right interface is a critical task that requires consideration of multiple factors including the individual’s text entry needs, diagnosis, motor and process skills, an appropriate body site and interface placement. Currently, there are limited evidence-based resources to support interface selection by AT service providers. This presentation will introduce and demonstrate an innovative database and registry that organizes all the relevant text entry data published in the last 30 years.

From the data compiled, we have analyzed comparative text entry rate (TER) in words per minute (WPM) of common interfaces and examined the influence of the client’s diagnosis and motor site on text entry. Automatic speech recognition, standard keyboard, cursor onscreen keyboard, and scanning onscreen keyboard had at least 4 studies and 30 subjects, with TERs averaging 15.4, 12.5, 4.2, and 1.7 wpm, respectively. Cerebral palsy was associated with significantly slower TER, at 5.5 wpm, than muscular dystrophy (12.5 wpm), spina bifida (10.4 wpm), SCI high cervical (10.1 wpm), and SCI low cervical (13.3 wpm). Among the 19 body sites represented, the Fingers bilateral category had the highest average, at 17.72 wpm. Head (2.92 wpm) and Hand (non-typing) (3.95 wpm) were each associated with significantly slower TER than Hands unspecified, Fingers bilateral, Hand with CE, Voice, and Mouth. We will also demonstrate ways in which researchers and practitioners can use the database to glean evidence. Future plans for crowdsourcing and updating the tool over time will also be discussed.