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Differences in Handwritten and Typed Responses to Curriculum-Based Measurements in Written Expression (WE-CBM)

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DIFFERENCES IN HANDWRITTEN AND TYPED RESPONSES TO CURRICULUM-BASED MEASUREMENTS IN WRITTEN EXPRESSION (WE-CBM)

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Title: Differences in Handwritten and Typed Responses to Curriculum-Based Measurements in Written Expression (WE-CBM)

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Curriculum-based measurements for written expression (WE-CBM) are timed writing samples provided by students that can be scored for various aspects of writing, such as fluency or accuracy. This study addresses the problem that educators do not yet know how results from WE-CBM samples composed by hand compare to those composed by typing. In addition, it contributes to the limited research regarding the best methods of administering WE-CBM.

This experimental design project compares two methods of producing text using WE-CBM metrics. Sixty-two fifth grade students composed two WE-CBM writing samples: one handwritten and one typed. These samples were scored for four of the most common outcome metrics using established WE-CBM procedures: total words written (TWW), correct writing sequences (CWS), percent of correct writing sequences (%CWS), and correct minus incorrect writing sequences (CIWS). In addition to method of producing text, examined variables included sex, keyboarding speed, and handwriting speed. Keyboarding and handwriting speed were measured by alphabet writing tasks and served as covariates. Pearson correlations were calculated to explore the relationships between all the variables. Analysis of variances with repeated measures (ANOVA-RM) and analysis of covariance with repeated measures (ANCOVA-RM) were conducted to determine if the method of producing text significantly affected student scores on the four WE-CBM metrics.

Typing and handwriting speed were moderately correlated. Fluency measures had weak to moderate correlations with typed and handwritten WE-CBM metrics. Most handwritten metrics were weakly to strongly intercorrelated, and most typed metrics were moderately to strongly intercorrelated. Handwritten and typed counterparts of three metrics were weakly to moderately correlated. ANOVA-RM and ANCOVA-RM analyses indicated that students earned higher TWW and CWS scores when typing, but similar CIWS and %CWS scores. There were no sex differences or interaction effects.

Teachers can use this information to design assessment to match instruction and use technology to facilitate the evaluation of student writing. Also, separate handwritten and typed norms will need to be created for some WE-CBM metrics, while typing fluency should continue to be valued as a necessary academic skill. This study should be replicated with different samples and different WE-CBM metrics.