## World Academy of Science, Engineering and Technology International Journal of Educational and Pedagogical Sciences Vol:14, No:09, 2020

## Examining the Development of Complexity, Accuracy and Fluency in L2 Learners' Writing after L2 Instruction

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Abstract: Research on second-language (L2) learning tends to focus on comparing students with different levels of proficiency at one point in time. However, to understand L2 development, we need more longitudinal research. In this study, we adopt a longitudinal approach to examine changes in three indicators of L2 ability, complexity, accuracy, and fluency (CAF), as reflected in the writing of L2 learners when writing on different tasks before and after a period L2 instruction. Each of 85 Chinese learners of English at three levels of English language proficiency responded to two writing tasks (independent and integrated) before and after nine months of English-language study in China. Each essay (N= 276) was analyzed in terms of numerous CAF indices using both computer coding and human rating: number of words written, number of errors per 100 words, ratings of error severity, global syntactic complexity (MLS), complexity by coordination (T/S), complexity by subordination (C/T), clausal complexity (MLC), phrasal complexity (NP density), syntactic variety, lexical density, lexical variation, lexical sophistication, and lexical bundles. Results were then compared statistically across tasks, L2 proficiency levels, and time. Overall, task type had significant effects on fluency and some syntactic complexity indices (complexity by coordination, structural variety, clausal complexity, phrase complexity) and lexical density, sophistication, and bundles, but not accuracy. L2 proficiency had significant effects on fluency, accuracy, and lexical variation, but not syntactic complexity. Finally, fluency, frequency of errors, but not accuracy ratings, syntactic complexity indices (clausal complexity, global complexity, complexity by subordination, phrase complexity, structural variety) and lexical complexity (lexical density, variation, and sophistication) exhibited significant changes after instruction, particularly for the independent task. We discuss the findings and their implications for assessment, instruction, and research on CAF in the context of L2 writing.

**Keywords:** second language writing, Fluency, accuracy, complexity, longitudinal

Conference Title: ICGLFLT 2020: International Conference on General Linquistics and Foreign Language Teaching

Conference Location: Prague, Czechia Conference Dates: September 03-04, 2020