ATTITUDES TOWARD PAIR PROGRAMMING FOR STUDENTS WITH DISABILITIES IN UNDERGRADUATE TECHNOLOGY COURSES

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Abstract

To succeed in the 21st century, students need to acquire skills that are critical to the workforce, such as of collaboration, social skills, and technology literacy (World Economic Forum, 2016). Individuals with disabilities must develop the same skills as their peers without disabilities. Unfortunately, college students with disabilities often find computing courses frustrating and are more vulnerable to lower academic self-concept, academic challenges, and disability stigma (Kim & Kutscher, 2021). To address the problem, we examined the use of pair programming, a collaborative approach to programming, as a pedagogic method to improve students' attitudes toward programming in undergraduate computer courses, especially for students with disabilities. We collected data between fall 2017 to summer 2020 with 455 students responding to all three waves of data collection (pre, mid, and post surveys in one semester. We created a comparison group that matched students with disabilities (33 students) on computing related variables (i.e., computer use, interest in computers), gender, and pair programming participation with students without disabilities. Findings showed that students with disabilities did not differ from those without disabilities in their programming attitudes at both middle and end after controlling for baseline computing attitudes. Thus, pair programming is an effective pedagogy for both students with and without disabilities.

Keywords: *Students with disabilities, pair programming, collaboration, computer courses.*