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The Effects of Professional Development on Teachers' Technology Self-Efficacy: A Design-Based Approach

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Title: The Effects of Professional Development on Teachers' Technology Self-Efficacy: A Design-Based Approach

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This mixed-methods and design-based study identifies changes in technology self-efficacy and technological, pedagogical, and content knowledge among forty-one teachers following their participation in sustained, collaborative, and scaffolded professional development for the interactive whiteboard. Self-efficacy is an important determinant in the degree to which a learner adopts a new skill. Identifying means of assisting teachers in integrating technology during their instruction is becoming more important as the rate new technologies enter the classroom accelerates.

During this study, one group of participants completed a professional development program, which consisted of a day-long professional development workshop for the interactive whiteboard in August, 2011 as well as monthly after-school technology skills seminars. A second group of participants did not complete the day-long professional development project but did complete the monthly skills seminars. The first group of participants completed a survey instrument created for this project to measure their interactive whiteboard technology self-efficacy before and after their participation in the professional development program. The second group of participants completed the same instrument following their participation in the monthly skills seminars. The quantitative portion of this study was a comparison of the pre- and post-professional development experience scores of the first group of participants and the post-experience

scores of data from the first and second groups of participants. The qualitative portion of the study was an analysis of six semi-structured participant interviews collected following the completion of the professional development experience.

The researcher found statistically significant improvements in technology self-efficacy in the first group of teachers following their participation in the professional development program. Based on the study's findings, teachers are likely to develop technology self-efficacy following their participation in sustained, collaborative, and scaffolded professional development for the interactive whiteboard. This confirms the value of sustained, collaborative, and scaffolded professional development for educational technologies.