1056-97-702   **Nicola D. Edwards-Omolewa*** (`nedwardsomolewa@desu.edu`), Delaware State University, Department of Mathematical Sciences, 1200 N. DuPont Highway, Dover, DE 19709. *Third Graders' Strategies and Preferences for Solving Arithmetic Problems: A Gender Difference Study.*

The strategies elementary school children use to solve multi-digit addition and subtraction story problems that require regrouping are investigated in two studies. Study 1 replicates the Fennema et al. (1998) study by re-examining existing Hiebert & Wearne (1992, 1993) data on 72 children's addition and subtraction solution strategies. Study 2 is an extension study with new data from individual interviews on 70 third-grade children's multi-digit addition and subtraction problem solving strategies that require regrouping. It extends the Fennema et al. (1998) study by identifying children's strategy preferences and the reasons they provide for those preferences. This presentation will focus on Study 2 where gender differences in strategy use were not as strong as those reported by Fennema et al. (1998). Boys and girls preference reasons reveal different understandings for what it means to learn mathematics. Results support the idea that differences may influence later gender differences in problem solving performance that begin in middle school and continue throughout high school. (Received September 16, 2009)