The effects of feedback on the acquisition and retention of mathematical fact series by elementary school students classified with mild mental retardation was examined in 4 studies. Immediate feedback was provided by either an educator or the Immediate Feedback Assessment Technique (IF AT), at the end of a test series by a review of correct solutions (delayed feedback), or for control purposes, with a Scantron form. Reductions in errors and inaccurate perseverative responding during intervention periods were higher, and the repetition of errors during maintenance test was lower, when feedback was provided by an educator in Study 1. These results were replicated and extended in Study 2 to the operation of subtraction. In Study 3, the concurrent presentation of both forms of immediate feedback was more effective than the presentation of either form separately. In Study 4, the adjunctive value of the IF AT to facilitate the teaching-learning process was established, with higher levels of independent learning and retention demonstrated when the IF AT was available. The IF AT, as a simple paper and pencil tool, can assist the educator through the provision of individualized performance feedback and the encouraging of students to continue responding while simultaneously promoting independent learning.