

Table 1  
Elementary School: Math Facts

Citation	Sample Size	G/A/GEN/R/C	Label	Treatment	Math Area	Sett.	Duration	Measurement	Results
Burns (2005)	3 (LD = 3)	3/8/2M, 1F/ 2 Caucasian, 1 African American/ --	LD	Incremental rehearsal	Single-digit multiplication	Special education room	14 wks.	CBM fluency probes	Single-digit multiplication facts with IR raised fluency of all participants from baseline to treatment.
Irish (2002)	6 (LD = 3)	4-5/ 9.9-11.5/ 3M, 3F/ 5 Caucasian, 1 African American/ --	LD, CD	Memory Math program instruction	Basic multiplication	Resource room	18 wks.	Real Quiz, electronic probes, pencil/paper probes	Accuracy of basic multiplication facts from baseline to follow-up increased for all the students
Tournaki (2003)	84 (LD = 42)	2 (NAS)/ 7-8 (NAS), 8-10 (students with LD)/ 48M, 36F/ -- / --	NAS, LD	Drill and practice strategy (n = 14 with LD, 14 NAS); Minimum addend strategy (n = 14 with LD, 14 NAS); control (n = 14 with LD, 14 NAS)	One-digit addition	Separate classroom	8 lessons, 15 min.	Pretest, posttest, transfer task	Overall scores of accuracy and latency of all participants demonstrated highest in strategy condition.
Wood, Frank, and Wacker (1998)	3 (LD = 3)	4-5/ 10/3M/2 Caucasian, 1 African American/ low	LD	Instructional package; modified instructional sequence + associative learning + mnemonic procedure + strategic learning + self-instruction training	Multiplication	Special education classroom	22 sessions; 30-45 min. (baseline), 10-40 min. (intervention)	Baseline testing, treatment tests, follow-up tests	The result of the study demonstrated performances of all three participants enhanced in treatment and continued to increase in follow-up.
Woodward (2006)	58 (LD = 15)	4/--/29M, 29F/29 Caucasian, 27 African American, 2 Asian/ 57% low	LD	Integrated approach strategies (n = 8 with LD, 22 NAS); derived fact, doubling and doubling- again + timed practice drills (n = 7 with LD, 21 NAS)	Multiplication	Classroom	Sessions, 25 min, 5 times/ week, 4 weeks	Pretest, posttest, maintenance, students' survey	The participants in integrated approach strategy demonstrated higher performance than those in timed practice only strategy. The performances of students with LD in both strategies lagged far behind other participants without LD.

Table 2  
Elementary School: Word Problems

Citation	Sample Size	G/A/GEN/R/C	Label	Treatment	Math Area	Sett.	Duration	Measurement	Results
Case, Harris, and Graham (1992)	4 (LD = 4)	5-6/11.2-11.8/ --/--/--	LD	Five-step problem solving strategy + Self regulated strategy	Simple addition and subtraction	--	Sessions, 35 min., 2-3 times a week	Pretest, posttest, generalization, maintenance, interviews of students and special education teacher	Performances of participants increased in posttest and generalization. Two participants maintained their performances on maintenance probes; two other participants did not. The positive answers were from the interview of the participants and teacher.
Jitendra, Griffin, McGoey, Gardill, Bhat, and Riley (1998)	58 (LD = 17)	2-5/ Mean 10.32/ 17M, 17F/ 28 Caucasian, 4 African American, 2 Hispanic/ --	LD, EMR, SED, At Risk; also the 3 <sup>rd</sup> grade NS	Schema strategy (n = 17); General strategy (n = 17)	One step addition and subtraction	--	Sessions, 40-45 min.	Pretest, posttest, delayed posttest, questionnaire, generalization, and maintenance	Participants in the schema strategy increased posttest, delayed posttest, generalization and maintenance more than those in general strategy
Jitendra and Hoff (1996)	3 (LD = 3)	3 <sup>-</sup> 4/8.10- 10.10/ 1M, 2F/ Caucasian/ middle-upper	LD	Individual schema-based strategy	One step addition and subtraction	Conference room	Sessions, 40-45 min.	3 Probes, sample interviews, and maintenance	Positive results regarding acquisition and maintenance
Owen and Fuchs (2002)	24 (LD = 20)	3/--/16M, 8F/ 10 Caucasian, 14 African American/ --	LD, Mild/ moderate MR, SLD, ADHD	Strategy instruction (S)+ Peer mediation (P); <i>Exp.</i> Control (n = 8); Acquisition (S+P) (n = 4); Low-dose acquisition plus transfer (S+P) (n = 5); Full-dose acquisition plus transfer (S+P)(n = 7)	Skill of finding half (e.g., ½), transfer problem	Gen. ed.	3 wks.	Pretest, posttest, sample surveys, teacher surveys	Participants in full-dose acquisition plus transfer increased the most, secondly those in low-dose acquisition plus transfer, thirdly those in acquisition, lastly those in control group

Table 3  
Middle School: Math Facts

Citation	Sample Size	G/A/GEN/ R/C	Label	Treatment	Math Area	Sett.	Duration	Measurement	Results
Butler, Miller, Crehan, Babbitt, and Pierce (2003)	50 (LD = 42)	6-8/11- 15/27M, 23F/	LD; OD	Concrete- Representational -Abstract (CRA) Sequence and Representational -Abstract (RA) Sequence	Equivalent- Fraction Concepts	Resource Room	10 sessions	Pretest-posttest and attitude question	Concrete manipulatives are successful in teaching fraction equivalence
Cass, Cates, Smith, and Jackson (2003)	3 (LD = 3)	7, 9, 10/ 13, 15, 16/2M, 1F/2 Caucasian, 1 African American/ Low	LD	Manipulative Instruction with Modeling, Prompting, Guided Practice, and Independent Practice	Perimeter/Area Problem Solving	Resource Room	2 months, daily sessions for 15-20 min	Probes, maintenance checks, and practical test of generalization converting a scale model of a dollhouse to an actual house	Manipulative use was successful in strategy instruction, transference, and maintenance of knowledge for geometry
Joseph and Hunter (2001)	3 (LD = 3)	8/13-14/3M/3 Caucasian/3 High	LD	Cue cards with Cognitive Assessment System (CAS)	Addition and subtraction of fractions	LD Classroom		Probes during baseline, intervention; and maintenance; daily self progress- monitoring	C ue cards work better with students with strong metacognition; students with weak metacognition need additional coaching strategy
Test and Ellis (2005)	6 (LD = 3)	8/ -- /3M, 3F/3 African- American, 3 Caucasian/ --	LD, EMD	LAP Fractions using mnemonic strategy	Addition and subtraction of fractions	Special education classroom	6 weeks	Pretest, posttest, maintenance	Five out of six students improved fraction-solving ability using LAP fractions

Table 4  
Middle School: Word Problems

Citation	Sample Size	G/A/GEN/R/C	Label	Treatment	Math Area	Sett.	Duration	Measurement	Results
Garderen (2007)	3 (LD = 3)	8/13-14/2M, 1F/1 Caucasian, 1 African- American, 1 Hispanic/1 Low	LD	Instruction in diagram generalization and strategy	One- and two-step word problems	Quiet room near classroom	40-min sessions	Pre-test, post-test design	Improvement across the board for number of diagrams created and ability to generate diagrams and ability to solve word problems increased.
Jitendra, DiPipi, and Perron- Jones (2002)	4 (LD = 4)	8/13/3M, 1F/3 Caucasian, 1 African- American/2 Medium, 1 Low, 1 High	LD	Schema strategy training in problem schemata and problem solution	Multiplication and division word problems	One-on-one instruction in learning support classroom	35-40 min sessions, 6-12 sessions	Multiple probe across participants	All participants increased ability to solve multiplication and division word problems using schema-based strategy.
Jitendra, Hoff, and Beck (1999)	4 (LD = 4)	6-7/12-14, 2M, 2F/3 Caucasian, 1 African- American/ --	LD	Schema strategy	One- and two-step word- problem- solving	Quiet room next to resource room	45 minute sessions	Multiple baseline, two levels of instructional/ postinstructional tests, generalization, maintenance	Schema strategy raised ability to solve word problems; maintained at 2 and 4 weeks.
Montague (1992)	6 (LD = 6)	6-8/12-14/3M, 3F/1 Caucasian, 1 African- American, 4 Hispanic/ --	LD	Cognitive and metacognitive strategy	One-, two-, and three-step word problems	Separate room	4 months, regularly scheduled 55-min sessions	Pretest, posttest, setting and temporal generalization, retraining	The combination of cognitive and metacognitive strategies together than either one individually; students did not successfully maintain strategies over time.
Xin, Jitendra, and Deatline- Buchman (2005)	22 (LD = 18)	6-8/12-mean/7 Caucasian, 12 Hispanic, 3 African- American	LD, SED, at risk	Schema-based instruction (SBI) and general strategy instruction (GSI)	Word problem solving	--	12 sessions, 1 hour each, 3-4 sessions/ week	Pretest, posttest, maintenance, follow-up, generalization	SBI group outperformed GSI group on acquisition, maintenance, and generalization.

*Note*. Dashes (--) indicate information that was not reported; ADHD = attention-deficit/hyperactivity disorder; CBM = curriculum based measurement; CD = cognitive disabilities; Duration = number of sessions, time per sessions; EMR = educably mentally retarded; G/A/GEN/R/C = grade, age, gender, race, class; Gen. ed. = general education; LD = learning disabilities; NAS = normally achieving students; NS = normative sample; OD = other disabilities; SED = seriously emotionally disturbed; Sett. = setting; SLD = speech/language disorders