DOCUMENT RESUME

ED 359 732 EC 302 299

TITLE	Research in the Classroom: Sixth Annual Report of Research Projects Conducted by Educators in Their Classrooms.
INSTITUTION	Colorado Council for Learning Disabilities.; Colorado State Dept. of Education, Denver. Div. of Special Education Services.
PUB DATE	Feb 93
NOTE	19p.; Prepared by the CCLD Research Committee.
PUB TYPE	Reports - Descriptive (141) -- Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Classroom Research; Elementary Secondary Education; *Instructional Effectiveness; *Instructional Improvement; Kinesthetic Methods; Language Handicaps; *Learning Disabilities; Mainstreaming; Multisensory Learning; *Phonics; *Reading Instruction; Self Esteem; *Teaching Methods; Team Teaching; Writing Instruction
IDENTIFIERS	*Colorado

ABSTRACT

This document summarizes the final reports of five Colorado classroom projects funded to promote and evaluate effective instructional techniques for students with learning disabilities. (However, the projects also involved students who were not disabled.) The five projects dealt with: (1) effectiveness of using an edu-kinesthetic whole brain learning program with students with learning disabilities, students with speech/language delay, and regular classroom students; (2) fruits of team teaching within mainstream writing classrooms; (3) making phonics multisensory via visual phonics to enhance early reading instruction; (4) using recorded books to enhance regular and learning-disabled first graders' natural enthusiasm for reading and to maintain their self-confidence about learning; and (5) improvement of decoding skills and perceptual motor speed through use of a combination of visual, auditory, kinesthetic, and tactile approaches to learning sound/symbol relationships. (JDD)

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RESEARCH IN THE CLASSROOM

Sixth Annual Report of Research Projects Conducted by Educators in Their Classrooms

Sponsored by the Colorado Council for Learning Disabilities and the Special Education Services Unit Colorado Department of Education

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February 1993

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Sixth Annual Report
of
Research Projects
Conducted by Educators in Their Classrooms

Sponsored by
the Colorado Council for Learning Disabilities (CCLD)
and
the Special Education Services Unit

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February 1993

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INTRODUCTION

The Council for Learning Disabilities is proud to present the sixth annual copy of *Research In The Classroom.*

The Classroom Teacher Research project was started by CCLD in 1987 to encourage teachers to conduct research in their classrooms and to report the results that make an important contribution to the improvement of teaching and to the knowledge base which supports how children learn. Interest on the part of Colorado teachers has grown. To date 80 proposals have been submitted from teachers all over the state.

In 1989 two grants were awarded to memorialize Colorado colleagues who had contributed much to the field of education and particularly to special education. These grants were in memory of Audry Eicher and Jeanne Hughes. In 1991 the Ellie Smucker Memorial Fund was established by her family. This fund will continue to be the source of one grant each year to be awarded to the researcher chosen by the research committee as the outstanding candidate. In May 1992, this grant was awarded to Randee Bergen of Centennial Elementary School in Littleton, Colorado. This proposal will examine the use of electronic reference devices to improve the writing performance of elementary school children.

CCLD has been designated as a tax-deductible non-profit organization. Those interested in supporting the grant concept may contribute toward its financial support through gifts made to the CCLD Grant Fund. The awards have ranged from $200 to $500 per project. Additional funds will mean more grants to classroom teacher researchers.

The material which follows summarizes the final reports of proposals which were funded in May 1991. It is hoped that these summaries will encourage more teachers to undertake classroom research projects. They illustrate examples of systematic approaches focused on supplying answers to questions these teachers were curious about. Methods and results will be of value to both teachers and to students as all strive to improve classroom instruction through research.

Pauline Stein/Shirley Bradsby
Committee Chairpersons

INTRODUCTION FROM THE COLORADO DEPARTMENT OF EDUCATION

This sixth annual report on teachers' research in their classrooms contains summaries of five projects which demonstrate the creativity and variety of activities occurring in Colorado's classrooms. From team teaching in a secondary writing class to using whole brain learning in an elementary school, educators are providing special instruction to their students.

The purpose of these research projects is to promote and evaluate effective instructional techniques for students with learning disabilities. However, all of the projects in this report also involved students who were not disabled. Several studies were collaborative efforts occurring among Colorado educators to provide effective instruction for all students. The results of each of the studies are positive, indicating that the practices hold promise for adoption in other classes. The conclusions drawn by the educator-researchers provide insights that can be helpful to us all.

Congratulations to all of the educator-researchers whose work is summarized in this report! You have taken the time and effort to objectively study what you do and to share what you have learned with us. Thank you.

Thanks also to the Colorado Council for Learning Disabilities for its continuing support of the teacher research project. The Research Committee spends many hours evaluating applications and summarizing final reports. This report is a symbol of the dedication that the organization has both to students with learning disabilities and their teachers.

We hope that you'll be motivated to try one of the ideas in your class. We encourage you to contact any of the researchers if you have a question for them. We also encourage you to submit your own research proposal to the Colorado Council for Learning Disabilities so that you may join your colleagues as an educator-researcher. For more information call Lois Adams (303 866-6704).

Lois Adams
Moderate Needs Project Coordinator

Kay Cessna
Senior Consultant

Title: **Effectiveness of Using Edu-Kinesthetic Whole Brain Learning Program with Students with Learning Disabilities, Speech/Language Delay, and Regular Classroom Students.**

Researchers: **Toni Carter, Sylvia Caricato, Beth Thatcher**

School: **South Mesa Elementary School**
23701 East Preston Road
Pueblo, Colorado 81006
(719) 543-6444

Statement of the Problem: To determine if there is a direct link between children who cannot cross the midlines of their bodies and learning disabilities?

Objective: To evaluate the usefulness of academic learning exercises as outlined in BRAIN GYM by Dennison on average, learning disabled, speech/language delayed students.

Population: Second grade children were divided into two groups, one group as a control group, the other group as the experimental group. Each group consisted of one educationally handicapped child, two children in remedial reading, one language delayed child, and six regular education children. Each group was also divided equally into right and left brain students.

Procedure: To determine the unique brain dominance pattern of each individual, each was assessed for mixed dominance (handedness, eye/ear) to find appropriate learning style.

Goal setting techniques for specific learning difficulties were developd with positive statements of problems. For visual discrimination difficulties, eye-hand lazy eight exercises for eyes, and lazy eight for writing were used. For auditory processing, thinking and writing, positive goals were set. Exercises were eye eights and lazy eights using the superimposed alphabet.

Students drank water before and during class since brain impulses travel on water. Their daily routine was: cross crawls, eye eights, ear eights, lazy eights with alphabet for writing. Next, the class began remediation in all academic areas using the Neurological Linguistic Program of Visualization; instrumental music was played for relaxation and for right brain stimulation. Vocabulary superimposed on pictures gave sight and auditory stimulation. Color was used to emphasize differences in words and in math.

An affective group meeting took place once each week with the teacher and school psychologist for affective activities that might be needed.

Assessment Instruments: The Piers Harris Self Concept Scale was used before and after. The Kuhn Twenty Statement Self-Concept was administered and used before and after. The SRA Achievement test was administered.

Results: Academically, students gained one to two years in their weakest academic subjects. The Language Delayed students, using the Classroom Listening and Speaking Curriculum pre and post testing, showed average growth of 18%.

The experimental group gained an average of three months more than the control group in reading and an average of seven months growth more than the control group in math. The groups were divided into right and left brain dominance and no significant differences were found between the two in growth.

Three of the four remedial reading students tested out of the remedial reading program. One student from the language delayed experimental group tested out of the language and speech program. Visual discrimination difficulties disappeared.

The results of the Piers-Harris Self Concept and the Kuhn Twenty Statement Self-Concept Test were dramatic in the positive improvement of the children's self-concept. Children were more organized, less distractible and able to stay on task.

Implications: This has been a most productive project for positive learning gains for the students and teachers. This was the project's second year; it was funded by the CCLD grant. We conducted the project this year with the control and experimental groups to make sure that our original findings were correct. Our conclusions were completely reinforced and we hope that more teachers will consider these Edu-Kinesthetic activities for their curriculum.

Resources:
Brain Gym (Simple activities for Whole Brain Learning)
Brain Gym is a series of whole body movements and activities that cross the midline of the brain.
Paul E. Dennison, Ph.D.
Gail Dennison
Edu-Kinesthetics, Inc.
P.O. Box 5002
Glendale, CA 91201
Published 1987

Neurological Linguistic Program
(Right brain visualizing techniques)
Dianne Craft, MA, Instructor
150 W. Mangrum Court
Pueblo, CO 81007

The 4Mat System (An eight step cycle of instruction that capitalizes on students' learning styles and brain processing strengths.)
Excel Inc. Publisher, 1990
200 West Station Street
Barrington, IL 60010

Summarized by: Gertrude Meyers, Research Committee

Title: **Fruits of Team Teaching within Mainstream Writing Classrooms**

Researchers: **Jane Fox and Damon Larson**

School: **Ponderosa High School**
7007 E. Bayou Road
Parker, Colorado 80134
(303) 841-2770

Statement of the Problem: Students with learning difficulties need a classroom in which they can feel stimulated and develop a positive attitude toward learning.

Objectives: To create a classroom design which significantly stimulates student academic performance and attitude toward learning.

To put into practice model classroom practices where special needs students are special only as their individual needs require. This is true for all students in the classroom.

Population: Two sections of Sophomore Writing fall semester and three sections of spring semester consisting of a total of 138 students, including 24 special education students, were involved in the project.

Assessment: Four means of assessment were used in the research. They were: an attitude survey, longitudinal evaluation of student writing, grades and teachers' perspectives. Each semester students' attitudes toward learning in general and writing specifically were surveyed. Pre/post tests in writing revealed better quality, more proofing, more risk-taking on topics and methods in the writing of students.

Procedure: 138 students, including 24 special education students fairly equally spread out in two sections of Sophomore Writing were chosen for the research.

One English teacher and one special education teacher shared the responsibilities of carrying out the research and meeting student needs. .

The curriculum was developed around student needs and district requirements. The plan began with the writing process and then moved into a five-paragraph essay, letters (business/personal), vignettes, vocabulary/spelling, grammar, the book Black Boy and a research paper.

Specific techniques found most appropriate were: team teaching, cooperative learning, mastery learning, direct instruction, outcome-based course of study and conferencing.

Technology used successfully included two sets of audio tapes of the book Black Boy. These were used with students who didn't start the book with others or who

needed extra or different exposure. Computers were instrumental in the quality and quantity of completed written pieces.

Modifications of procedure did occur in the second semester. Student needs and time constraints altered some of the curriculum and technology requirements. The special education teacher attended all three sections three days a week rather than one section five days a week. A student publication was replaced with an adventure unit.

Evaluation: The results from the attitudinal survey were consistent.

The following table shows data in terms of percent of improvement for the groups:

QUESTION	YES (Count)	NO
"I like writing"		
pre-test	55%	53%
post-test	60%	11%
"I express my ideas well in writing"		
pre-test	47%	53%
post-test	63%	37%
"Yes, I get nervous when the teacher calls on me"		
pre-test	54%	--
post-test	35%	--
"There are lots of things about me I'd change if I could"		
pre-test	63%	37%
post-test	45%	55%

The teachers' perspectives were that student writing improved dramatically from the course beginning to the course end. However, they felt that it was not clearly proven that the improvement was due to team teaching.

Implications: The success of the program caused the researchers to question the following:

1. Due to our success, what could happen with team teaching with regular and special education teachers in other curriculum classrooms?
2. What if there had been half as many students, less confusion and a better ratio?
3. Due to success with computers, what could happen if each student had his own computer?

Summarized by: Donna Vaughters, CCLD Research Committee

Title: **Making Phonics Multisensory: Using See The Sound/ Visual Phonics to Enhance Early Reading Instruction**

Researchers: **Virginia Slauson, Resource Teacher**
Jamie Carrier, Kindergarten Teacher

School: **Centennial Elementary School**
1555 W. 37th Street
Loveland Colorado 80538
(303) 667-3557

Statement of the Problem:
Lower achieving beginning readers often need extra support to master letter recognition, sound association and sound blending. Phonics basics are difficult for children who have processing problemsdue to the reliance on auditory representation and retention. A method for early reading instruction which links the auditory with visual, kinesthetic and tactile representations of sounds was investigated for its potential to increase the achievement of kindergarten students.

Objective:
To compare the achievement of kindergarten students who received See The Sound (STS) Visual Phonics instruction to those who did not.

Population:
Two kindergarten classes were selected for the study prior to student enrollment. The morning class, designated as the treatment group, contained 18 students, and the afternoon class served as the control group. It contained 22 students, including two resource room students.

Assessment:
Pretests were administered to both groups and consisted of naming letters, telling the common sound of each letter and blending sounds to read nonsense syllables. Based on the results of the pretest, students were divided into three achievement levels for the purposes of comparison and data analysis:
1) advanced (7 in the STS group and 3 in the control group {C}),, 2) typical (8 STS/14 C) and 3) slow level (3 STS/3C) beginning readers. The two resource room students were treated as a separate group. Posttests were administered after seven months and the progress of students at comparable pretest levels was compared.

Procedure:
All students in the treatment group received regular classroom instruction in reading with the addition of the STS method. The control group received the same reading instruction, but without the hand signs for the sounds. The two resource room students in the control group received intensive reading instruction using STS in the resource room. See The Sounds instruction consists of a system which associates each sound with a hand signal and a graphic symbol. It is similar to sign language for the deaf except the hand motions represent sounds, not letters or

words. The graphic symbols are simple pictures of the hand motions. STS links speech sounds to other senses in a progression from mouth movements, hand gestures which mirror the mouth movements, to written symbols. This method was used during reading instruction in the treatment group when letter sounds were introduced and reviewed.

Evaluation:
Statistical analyses were conducted to compare student progress in the three tested skill areas in each ability group and class. Whole class comparisons were not included since the pre-test ability levels of the STS and the control groups were substantially discrepant.

Findings:
Analysis of pre- and posttest data shows an overall trend toward greater progress by the students who were taught STS hand signs, with slower and resource room students benefiting most and advanced students showing no difference. Letter recognition skills improved for lower achieving students, but not significantly. Sound associations significantly improved for slow students in the STS group, who were about two times more successful than their peers in the control group. Resource room students were three times more successful than the slow students in the control group on sound associations. Ability to read nonsense words was a skill which significantly improved for the typical learner in the STS group, while none of the slow learners in either group demonstrated that skill. Overall, inclusion of STS in instruction seems to accelerate reading skill acquisition for slow and typical learners, tending to boost students up a step. Advanced learners are neither positively nor negatively affected.

Implications:
This is a study that could be replicated at any school that has at least two kindergarten classes. Any method of reading instruction could incorporate See The Sound hand signals. It neither diminishes nor intrudes upon a whole language program and takes little extra time or materials to institute. It may be a system which could be used to significantly help students who struggle most with reading in the regular classroom and to provide intensive assistance for students in the special education classroom. Follow-up studies would be beneficial to evaluate if the gains made by students in the STS group are maintained.

Summarized by: Sue Bechard, CCLD Research Committee

Title: **Success for All First Graders: Making a difference for students using recorded books to enhance regular and L.D. first graders' natural enthusiasm for reading and maintain their self-confidence about learning.**

Researchers: **Shirley Bradsby, Sue Mundell (Learning Disabilities teachers), Jan Wise (Speech/Language Specialist), Susie Haas (Educational Consultant), Marilyn Coffelt (Psychologist), Judy Dempsey, Jan Schmidt, and Kathy Donahoe (regular first grade teachers)**

School: **Devinny Elementary School**
1725 South Wright
Lakewood, Colorado 80228
(303) 985-1583

Statement of Problem: Teachers have found that the majority of beginning first graders want most of all to learn to read. Some continue this enthusiasm while others soon decide that learning to read is "just too hard." Students who begin experiencing failure in learning to read may be expected to lose interest and motivation for reading activities. These difficulties can also be expected to result in a decline in the student's self-esteem.

By using a variety of methods to teach children to read, it was felt that all senses could be matched and the children would be more successful. For example, many students do well with a very visual approach. Others need the experiences of phonics and an auditory approach.

One method of reading instruction which matches global, tactile, and kinesthetic styles is that of recorded books. The student listens to recordings of short segments of trade books or other quality children's literature recorded at a slower-than-usual pace. The speaker uses natural phrasing and exaggerated emphasis and inflection to enhance meaning. The student points to each word in his own book and reads along with the recording.

Stated Objective: By matching reading instruction to student reading styles through Carbo's recorded book method, first graders will not only read at grade level or above, but will demonstrate enthusiasm for reading and expectancies for success as well.

Populations: Sixty-nine first graders of both sexes were used for this research project. There was a mixture of abilities. The students were in three different first grade rooms.

Assessment: All children were pre-post tested on "The Pictorial Scale of Perceived Competence and Acceptance for Young Children." They were also rated as to

learning style. These students had a variety of learning styles. However, because of their age, a global learning style was the most prevalent.

Procedures:

1. The most appropriate method of reading instruction for each student in first grade (regular and learning disabled) was identified by teacher evaluation using the Reading Style Inventory.
2. Special Educators, paraprofessionals, and regular education teachers used the Carbo recorded bock method of reading instruction in the regular first grade classroom. All first graders met in the recorded book group for 30 minutes a minimum of twice per week. They listened to each tape three times and their comprehension and fluency was reinforced with oral discussions.
3. Regular first grade teachers, special educators and paraprofessionals met weekly to assess units and communicate about students. Once a month, they all met to plan units and coordinate additional games, writing activities, and discussions with the recorded stories.

Evaluation:

1. Administered an inventory of student attitude toward reading and self-esteem in September and May (pre-post).
2. All teachers evaluated the first graders at the end of the year on oral reading, reading comprehension, word attack skills, and enthusiasm for reading.

Findings: As stated above, most first graders tested were found to be "global" learners. Teachers reported that all students except four could read and do reading skills required at the end of the first grade.

Of the 69 first grade students tested on their perceived competence and acceptance of school subjects, 65% scored significantly better in May than they did in September. Twenty-two scored 10% better, nine scored 20% better, eleven scored 30% better and two scored over 40% higher than in September. Of the eleven students whose score went down, only three had a significantly lower score.

The researchers felt that both special and regular education children were helped because of the "team approach", the coordinating units, and the instant success that was felt by all children using recorded books.

Implications: Some areas that were inadvertently researched:

1. Scores for perceived competence and acceptance went up in all areas, not just in reading.
2. All teachers felt that all children maintained their enthusiasm for school and reading throughout the year.
3. Special education students showed growth in all areas.
4. Four students were identified in May as having definite learning problems after this coordinated effort with a variety of teachers and materials had been tried.

Learning Developed by the Researchers:

1. Time to plan and develop the units was always hard.
2. Sharing of the materials at times became a problem.
3. Planning together gave good consistency to the first grade teaching.
4. Doing recorded books led to many exciting "spin-offs" such as scavenger hunts, picnics, etc.
5. Some great units were developed from the recorded books leading to games and activities that were just dynamite!
6. A pamphlet "Success for ALL first graders" was developed and is distributed at Back to School Night and to new parents with students in first grade during the year.

Summarized by: Shirley Bradsby, CCLD Research Committee

Title: V.A.K.T. Reading Project

Researcher: Robert Petrie, Special Education Teacher

School: Central Elementary School
6450 Holly Street
Commerce City, Colorado 80022
(303) 287-0327

Statement of Problem: According to Orton-Gillingham, poor readers appear to need a combination of visual, auditory, kinesthetic and tactile approaches to enhance their learning of sound/symbol relationships. If this opportunity is given them on a daily basis, using the "Intensive Phonics" program by Charlotte F. Lockhart, will significant gains be made?

Objectives:

1. To improve decoding skills
2. To improve perceptual motor speed

Population: Twenty-four third grade students, 13 boys and 11 girls including five identified students with learning disabilities, received instruction in an integrated classroom served by a special educator and a general educator three to four days per week for four months.

Assessment: Reading level scores, obtained from the California Tests of Basic Skills, administered in the spring of 1991, were compared with scores obtained from the PIAT-R Reading Recognition Test, administered in February of 1992.

Procedure: From September 30, 1991, to February 4, 1992 (four months), 24 third grade students received instruction for 35 to 40 minutes three to four days per week by teachers using the "Intensive Phonics" program. Visible, tangible cues and modeling were combined to teach basic symbol sound relationships, word identification skills, sentence structure, spelling, and perceptual motor skill development. Newly acquired reading skills were extended to the writing process. The V.A.K.T. method allowed teacher acknowledgment of learning styles and provided flexibility to accommodate them.

Using the overhead projector, the daily letter--sound and/or sentence combination was presented. Students practiced in small groups at the chalkboard. The board provided the medium for children to see-say and to write-trace at their personal levels. Results enabled the teacher to more effectively model, monitor and assist students. Cooperative learning was emphasized.

Learning was supplemented with appropriate basal readers, literature based reading, computer software and projects which enhanced and enriched the "Intensive Phonics" program.

Evaluation: In four months time the following student growth was recorded:

1. 33% one year plus growth
2. 29% six months to one year's growth
3. 29% one month to five months growth
4. 9% regressed

The scores of students reading at or above grade level at the start of the program showed very strong growth, possibly because they were challenged. Students who started with moderate to severe needs did not exhibit dramatic gains, but did learn and improve basic letter/sound relationships and phoneme awareness.

There is no evidence that V.A.K.T. was the sole element responsible for growth.

Implications: Although the third grade level appears to be a good place to start this program, trying it sooner might keep some children from getting so far behind in the first place. Since more successful students appeared to do exceptionally well with this approach, it might be introduced to them as an enriching curriculum early on so that they could get to the business of reading real literature and reference material sooner. More research needs to be done in these areas. Teachers wanting to try this method need time to learn it well before using it in the classroom.

Summarized by: Pauline Stein, Research Committee

Five Research Grants Awarded in 1992

Congratulations to the five professionals who were granted awards to conduct research in their classrooms! The following proposals were chosen:

1. Randee Bergen of Centennial Elementary School in Littleton received the Elly Smucker award for her proposal: Improving the Writing Performance of Students Through the Use of Electronic References Devices.

2. Marilyn Coffelt, a psychologist at Devinny Elementary School in Jefferson County, was awarded the Audrey Eicher Grant for her proposal: Demystification of Attention Deficit Disorders.

3. Rosann Curran of Pueblo West Middle School of Pueblo #70 received an award for her plan: Development of Social Skills in the Workplace.

4. Marcy Leonard and her colleagues, Cynthia Rose and Kathy Wright of Eagleton Elementary School in Denver teamed with Beth Doll and Deanna Sands of the University of Colorado, Denver to develop their plan: Self Advocacy for Students with Special Education Needs.

5. Agnes Ryan and Audrey Brown of Welchester Elementary School in Jefferson County were awarded a grant for their development of a design called: Home School Ties, a plan to improve reading ability.