ABSTRACT
        The Reading Achievement Center, at the Murchison
School in the Mexican-American community of East Los Angeles, offers
an individualized reading program for grades 3-6; the program was
begun in the fall of 1972 and includes inservice teacher training,
experimentation with new systems, and a commitment to help children
develop a positive self-concept. The following four basic systems are
involved in the center' programs: a diagnostic system, in which each
child, upon entering the school, is tested thoroughly by a reading
guide to determine reading accomplishments, needs, and potential; a
prescriptive system, developed by the professional staff using
results of the diagnostic tests and including a variety of materials
and activities; a staffing system, consisting of three kinds of
staff--directors (credentialed public school teachers), guides (one
for every five children), and clerical workers; and a motivational
system, using three methods of motivation--extrinsic and intrinsic
motivation and positive environment. Results of posttesting of a
random sample of children after two years show an overall positive
growth pattern, with accelerated rates of growth showing an average
increase of 25 percent in reading achievement. (Tables are included.)
(JM)

A TWO YEAR REPORT ON AN INNER CITY SCHOOL'S READING ACHIEVEMENT CENTER [1]

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No one would deny the importance of reading in education today. It
was estimated that by secondary school, 85% of all learning is related to
reading and reading skills (Nickols, 1969), and those who do not learn to read
well by that time will have a very difficult time in school as a whole.
This places a tremendous responsibility on the elementary school to bring
children's reading skills up to their potential level. Unfortunately, this is
known often not to be the case. And while all groups of children probably
are not reading up to their potential, it is apparent that Mexican-American
children are disproportionately poorer readers than Anglo-American children
(Holland, 1969). The factors causing this, of course, are many, such as a
poverty environment, the cultural factors, the language porblems, etc. But
even with the knowledge of the problems, few schools with primarily Mexican-
American populations are doing much to improve the method of instruction to
an acceptable degree (Carter, 1970).

One elementary school with a primarily Mexican-American student population
appears to be an exception to this situation. Murchison Street School, lo-
cated in the Mexican-American community of East Los Angeles, since the late
1960's has made the improvement of reading achievement a total-program policy.
This included much in-service teacher training, experimentation with new systems
such as the Initial Teaching Alphabet, language experience approach, and Open

Court, and a committment by both administration and staff for the development
of a positive self-concept for the children starting in the early childhood
program and continuing throughout the school experience. Funding for the
special programs came form Title I monies for inner-city schools. These
measures were all considered necessary for Murchison, which had one of the low-
est reading score levels in all of Los Angeles, to begin to solve this very
serious problem.

The all-out effort to improve the reading of Murchison's children cul-
minated in the plan to develop a reading center, or laboratory, in the school.
The past few years has seen many such centers being established experimentally
accross the country in inner-city neighborhoods with much success (Chaffin,
1970; Crawford, 1971). These laboratories usually are in the form of a
"clinic", where children with reading difficulties are isolated and sent to
remediate their problems (Churchill, 1969), or purely compensatory in nature,
where the laboratory strives to make up for cultural differences that can
cause reading difficulties (Fiedler, 1972). Both these approaches, though
usefull in some situations, did not suite the needs of a school that needed
to improve the reading skills of all the children rather than those identified
as the ones with the most difficulties. Murchison planned their center not
to be simply a suplement but to be an individualized reading program for all
of the children in the school in grades three through six (the school found
that the most need was in the upper four grades and that the facilities would
best be used in that manner).

The Reading Achievement Center Program

The Murchison Street School Reading Achievement Center was modeled after the American Learning Corporation's private laboratory called The Reading Game. Because of the fact that the corporation was involved with the program only in the initial design and implementation, the Reading Achievement Center (RAC) was able to develop its own "personality"; that is, adapt to the unique problems and needs of the children from this school. A possible reason for the problems that arise when schools contract for programs is that the programs themselves are not flexible enough to fit the different school environments. This happily was not the case with Murchison's center.

There are four basic systems involved in RAC's program: 1) The Diagnostic System, 2) The Prescriptive System, 3) The Differentiated Staffing System, and 4) The Motivational System. Each system will be explained in the context of the total program to give a clearer indication as to how RAC operates. It cannot be stressed too greatly that no program, no matter how complete, can work without the enthusiasm and concern of those working directly with the children, and that if Murchison's RAC was successful then it is due not only to these four systems but also to the ability of the instructors.

The diagnostic system. As individualized instruction must begin with thorough diagnostic testing to determine specific reading accomplishments, needs, and potential for each child, RAC allows for approximately two hours per pupil at the start of the school year or as children transfer into the school, for testing purposes. The children are tested for vision and hearing accuracy; verbal facility in English; overall reading comprehension on standardized achievement tests; specific achievement in word attack, comprehension, vocabulary,

and grade level; and for exact placement in individual systems.   See Table 1. for a partial list of tests used.

The children are tested individually by a Reading Guide (the paraprofessionals who act as instructors in the RAC), who is trained to be extremely supportive and to draw responses from the children.   The reasoning behind this is that for an accurate assessment of the child's abilities the diagnostic testing must be an accurate analogue.   Simply giving the child a paper and pencil test, with many closed-ended type of responses called for, does not always give a complete picture of the child's skills.   This is demonstrated by the fact that a comparison in reading grade levels between the closed-ended paper and pencil standardized achievement tests and the open-ended diagnostic tests shows a higher grade level mean for the diagnostic test (see Table 3. for an example).

The prescriptive system.   Using the results of the diagnostic tests, the professional staff develops a prescription for the child.   This prescription includes a variety of materials and systems and includes a broad spectrum of activities to take into account the different styles of learning for each child.   For example, a child who has a higher than normal activity level, as observed during the diagnostic testing, can be placed in systems that utilize a kinesthetic approach.

Although systems and programs are constantly being added or revised, RAC uses approximately forty at all times.   A partial list of these is shown in Table 2.   These systems relate to four general reading development areas: 1) Word Attack, which involves the learning of encoding and decoding skills by both auditory and visual methods; 2) Vocabulary Development, for the immediate recognition of sight words and the understanding of the wrods in the meaning

Table 1. A Partial List of Tests Used in the Reading Achievement Center

Name of Test	Type of Test
CSLA Hearing Test	Basic auditory discrimination test
Keystone Telebinocular Survey	Basic vision test
Slossen Intelligence Test (SIT)	Used to determine verbal facility
Cooperative Primary Reading Test Levels 12 and 23	Standardized achievement test
Comprehensive Test of Basic Skills (CTBS) Levels 1 and 2	Standardized achievement test
Spache Reading Diagnostic Scales	Complete diagnostic test
Gates-McKillop Reading Test	Complete diagnostic test
SRA Phonics Survey	Phonics diagnostic test

Table 2. A Partial List of Systems and Programs Used in the Reading Achievement Center

Name of System	Specific Prescriptive System
BRS Satellites	
Conquests in Reading	
EFI	
Language Master Set B	
Language Master Linguistic Word Patterns	
Mini Systems (Short Vowels)	
Mott 1300 Series	
Open Court	WORD ATTACK
SRA Word Games	
Sullivan Workbooks	
Sullivan Readers	
Sullivan Alphabet Cards	
TRG Sound System	
Webster Word Wheels	
System 80 Elephant Series	
Barnell-Loft Picto-vocabulary	
Continental Press	
Craig Reader	
Dolch Basic Sight Vobulary Flash Cards	
Dolch Popper Words	
Dolch Sight Phrase Cards	
EDL Flash-X	
EDL Looking at Words	
EDL Word Clues	VOCABULARY
Language Master	
Reading Attainment System Skill Cards	
SRA (Learning About Words)	
SRA Word Games	
Stott Games	
System 80 Rooster Series	
TRG Sight Vocabulary Program	
Webster Word Wheels	
Wordcraft	

Table 2. Continued

Barnell-Loft Comprehension Series	
Drawing Conclusions	
Using the Context	
Locating the Answer	
Getting the Main Idea	
Following Directions	
Craig Reader	
Gates-Peardon Comprehension Series	
McCall-Crabbs	COMPREHENSION
McCall-Harby	
Mott 300, 600 Series	
Reading Attainment System	
Reading for Understanding (RFU)	
SRA Power Builders and Rate Builders	
Sullivan Readers	
Webster Skill Cards	
Craig Reader	
Mott 1300 Series	
Reading Application Program	APPLICATION-SPEED
Dolch Readers	
BRS Readers	
Other Reading Materials	

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vocabulary; 3) Comprehension, which gives the child practice in remembering details, recognizing main ideas, drawing conclusions, making inferences, using context clues, etc.; and 4) Application and Other Skills, such as improving speed, enjoyment of books, etc.

Each child has a notebook which, besides having all of his workbooks and papers, has his prescription and daily assignments. The children come daily for forty-five minutes and do assignments that were chosen from their prescription. At the end of the day the Guides and Directors evaluate the progress of each child and make the next days assignments accordingly. Therefore, the children are actually having their needs diagnosed daily. When necessary, the prescription is changed by the Directors.

The staffing system. Most teachers would agree that one of the gravest problems in traditional classrooms is the large amount of children to whom the teacher is responsible at one time. It is unreasonable to expect very much individual attention for each child in a class of thirty-six to forty children. An answer to this concern was found in the use of a differentiated staffing system where the job of classroom teacher has been reassigned to a Director, Reading Guides, and, if necessary, clerical workers. The Directors are credentialed public school teachers who have been trained extensively in the diagnostic-prescriptive approach to reading. Their duties include the writing of the initial prescription, doing extra one-to-one work with the children who need it, changing prescriptions, and overseeing the entire operation of the center. The Reading Guides are the trained paraprofessionals who do most of the actual instruction with the children. The center operates on a five-to-one children to Guide ratio, so the Guides have few enough children during a period where they can devote as much individual attention as needed. Finally, any support

personnel working in the RAC comes from the group of usual school aids, to insure
that they can relate to and work comfortably with children.

The motivational system.   Recognizing the fact that all learning occurs
on a contingency basis, a motivational system was included to encourage growth and
to help the child view himself as a succeeder rather than a failure.   The three
methods of motivation used at the RAC are: 1) Extrinsic Motivation, where the
children receive stamps for each assignment completed, which can later be
redeemed for prizes; 2) Intrinsic Motivation, with the Guides providing much
immediate verbal reinforcements, recognizing and verbalizing all achievement
made by the child, which hopefully will translate into the child wanting to
read because he has been successful at it; and 3) a Positive Environment,
where the entire structure of the RAC is such that the children are happy,
encouraged, and have a minimal amount of pressure placed on them.   As part of
this last factor, the physical set-up of the RAC was considered crucial; therefore,
included were a gameroom, carpeting, air conditioning, bean bag-chairs, etc.

It was hoped that taken together, these four systems would help facilitate
the reading acquisition of these children.   However, the program could only
work if the relationship between the Guides and the children were strong,
for in that lies the key to the development of the intrinsic motivation.   That
so far has helped in the case of Murchison, and any school deciding on a program
such as that of RAC should be aware of this factor by hiring only those para-
professionals who show a profound interest in children.   Also essential is
good coordination of the program, especially at Murchison where there are
three complete centers with over 600 children a day attending sessions.

<u>The testing Program</u>

When the program began in the fall of 1972, a posttesting program was anticipated to take place at the end of the second school year, or June of 1974. The purpose of the posttesting was twofold. First, it was to generally see if the amount of time and money being spent on this program was benefitting the children. If after two years at least an indication of success weren't to be found, then alternative measures would have to be sought. Second, specific strengths and weaknesses were to be discovered that lie in the program. If an individualized program is to function it must be able to diagnose and correct its own difficulties. Such a complete posttesting would help to accomplish this.

The complete testing that the child underwent when the RAC first opened was not only used as a diagnostic tool, but also as a form of pretest to see where the children were in all areas of reading and so that those scores could be compared after two years to determine the effect of the center. Some of the children who were in either the third, forth, or fifth grade when RAC opened were retested at the end of their second school year in RAC, so for example a third grader who was pretested in October of 1972 was posttested as a fourth grader in June of 1974.

The children were selected to be posttested at random from the whole group of children using a table of random numbers just before the retesting period. They were tested under identical conditions to that of the pretest, i.e. one-to-one testing with a Guide, the same tests as they originally took, the same room, etc. The only difference between the pre and the posttest sessions

was that for the latter the vision, hearing, and verbal facility tests were
not administered, since that would have offered little substantive information.

Results

Although no actual statistical tests for significance were performed,
since no control group was utilized in this purely descriptive study, listings
of mean differences between pre and posttest scores are given in Tables 3,
4, and 5 for grades four, five, and six, respectively.   Also described is the
accelerated rate of growth, which gives and indication how much _more_ growth
the child has attained since he came to RAC.   For example, if a child pretested
with a grade equivalence of 3.00 at the beginning of third grade, then up until
that time he has progressed at about one years growth per year.   If during
the next year and a half, during the time he went to RAC, he progresses to
6.00, then he has doubled his usual growth rate, or 1.00.   If a negative
accelerated rate of growth occurs, it does not mean that the children in that
sample scored lower on their posttests than they did on their pretests; rather,
it means that they did not grow on an average as much as they had before
entering the program.   The formula for calculating the accelerated rate of
growth for a group is:

$$\left(\frac{\overline{X_2} - \overline{X_1}}{1.5}\right) - \left(\frac{\overline{X_1}}{G-1}\right)$$

where $\overline{X_1}$ is the mean pretest score, $\overline{X_2}$ is the mean posttest score, 1.5 is the
time in years between pre and posttests, and G-1 is the groups grade level at
the time of pretesting.

The results are divided into Achievement Tests and Diagnostic Tests.

The achievement tests all yield grade equivalents, whereas the Instructional, Independent, and Potential Levels of the Spache Diagnostic Test, and the Reading Grade Levels of the Gates-McKillop Diagnostic Test give grade equivalents. The other scores for the phonics subsections of the diagnostic tests are percentage correct scores.

Fourth Grade. The achievement tests grade equivalents show a negative accelerated rate of growth, although the children did increase their grade levels by about one year on these tests. The Instructional Level of the Spache showed a large .40 accelerated rate of growth with almost a two grade level increase. The Independent, or silent Level also showed a positive accelerated rate of growth, though not quite as large. All phonics subtest mean scores improved between pre and posttests. The children who took the Gates-McKillop Diagnostic Test also showed an accelerated reading grade level of .22, or about 22% greater increases than before RAC. All phonics posttests on the Gates-McKillop were higher than the pretest.

Fifth Grade. All grade equivalent scores, both on the achievement and the diagnostic tests, show a positive accelerated rate of growth, with the children improving their reading grade levels from between one and a half to one and three quarter grade levels. All phonics posttest scores indicate improvement for both the Spache and the Gates-McKillop.

Sixth Grade. The Cooperative Primary achievement tests, both levels, show a negative accelerated rate of growth, especially level 12, which also shows an actual decline in grade level, although only a negligible amount. Both the CTBS achievement tests show large positive accelerated rates of growth, especially those children taking CTBS Level 2., who show almost a two and a half grade level increase. Impressive accelerated rates of growth were also

Table 3. Mean Pre and Post Test Scores, with Accelerated Rate of Growth, Grade 4.

Test	Pretest	Posttest	Accelerated Growth
Achievement Test:[a]			
Cooperative Primary Level 12	1.85	2.78	0.00
Cooperative Primary Level 23	2.37	3.44	-0.07
CTBS Level 1			
Vocabulary	1.80	2.80	
Comprehension	2.60	3.20	
Total	2.00	3.00	-0.02
Diagnostic Test:[b]			
Spache[c]			
Instructional Level	2.37	4.16	0.40
Independent Level	2.47	3.89	0.12
Potential	3.53	5.16	
Consonant Sounds	.95	.96	
Vowel Sounds	.57	.79	
Blends and Digraphs	.91	.95	
Common Syllables	.80	.85	
Blending	.59	.87	
Auditory Recognition	.90	.95	
Gates-McKillop[d]			
Reading Grade Level	2.89	4.67	0.22
Words-Flash Presentation	.26	.52	
Words-Untimed Presentation	.50	.50	
Phrases	.30	.81	
Blending	.27	.67	
Lower-Case Letters	.93	.99	
Capital Letters	.97	.99	
Letter Sounds	.82	.96	
Nonesense Words	.53	.79	
Initial Sounds	.92	.96	
Final Letters	.86	.92	
Vowels	.66	.87	
Auditory Recognition	.72	.96	

[a] Achievement test scores are grade equivalents, and a child took only one, depending upon his initial reading ability.

[b] The child took either the Spache or the Gates, not both, depending upon his initial reading ability.

[c] Instructional, Independent, and Potential Levels are grade equivalents. The rest are in percentages.

[d] The Reading Grade Level is a grade equivalent. The rest are in percentages.

Table 4. Mean Pre and Post Test Scores, with Accelerated Rate of Gowth, Grade 5

Test	Pretest	Posttest	Accelerated Growth
Achievement Test:[a]			
Cooperative Primary Level 12	1.76	2.70	0.19
Cooperative Primary Level 23	2.28	3.24	0.29
CTBS Level 1			
Vocabulary	2.90	4.20	
Comprehension	2.90	4.30	
Total	2.90	4.20	0.10
CTBS Level 2			
Vocabulary	4.00	5.60	
Comprehension	3.70	5.40	
Total	3.80	5.50	0.14
Diagnostic Test:[b]			
Spache[c]			
Instructional Level	2.97	4.46	0.25
Independent Level	3.00	4.15	0.02
Consonant Sounds	.96	.94	
Vowel Sounds	.67	.87	
Blends and Digraphs	.92	.97	
Common Syllables	.76	.90	
Blending	.63	.92	
Auditory Regognition	.91	.93	
Gates-McKillop[d]			
Reading Grade Level	3.92	5.08	0.21
Words-Flash Presentation	.47	.55	
Words-Untimed Presentation	.58	.58	
Phrases	.60	.79	
Blending	.32	.81	
Lower Case Letters	.95	.99	
Capital Letters	.95	.96	
Letter Sounds	.91	.94	
Nonesense Words	.65	.81	
Initial Sounds	.86	.96	
Final Letters	.88	.96	
Vowels	.68	.88	
Auditory Recognition	.87	.93	

[a] Achievement test scores are grade equivalents, and a child took only one, depending upon his initial reading ability.

[b] The child took either the Spache or the Gates, not both, depending upon his initial reading ability.

[c] Instructional, Independent, and Potential Levels are grade equivalents. The rest are in percentages.

[d] The Reading Grade Level is a grade equivalent. The rest are in percentages.

Table 5. Mean Pre and Post Test Scores, with Accelerated Rate of Growth, Grade 6

Test	Pretest	Posttest	Accelerated Growth
Achievement Test:[a]			
Cooperative Primary Level 12	2.23	2.22	-0.45
Cooperative Primary Level 23	2.36	3.49	-0.02
CTBS Level 1			
Vocabulary	2.90	4.00	
Comprehension	2.80	4.30	
Total	2.90	4.10	0.22
CTBS Level 2			
Vocabulary	4.20	5.80	
Comprehension	3.60	6.40	
Total	3.90	6.30	0.78
Diagnostic Test:[b]			
Spache			
Instructional Level	3.49	5.06	0.35
Independent Level	3.57	4.82	0.12
Potential Level	4.28	5.79	
Consonant Sounds	.92	.95	
Vowel Sounds	.66	.86	
Blends and Digraphs	.91	.94	
Common Syllables	.77	.87	
Blending	.71	.85	
Auditory Recognition	.91	.96	

[a] Achievement test scores are grade equivalents, and a child took only one, depending upon his initial reading ability.

[b] Instructional, Independent, and Potential Levels are grade equivalents. The rest are in percentages.

shown in the Spache test. Only one sixth grade pupil took the Gates-McKillop, so means were not possible to calculate.

There were 182 children in the sample, with each grade level having a third of that number. No seperate calculations were performed seperating boys and girls, as that would not have yielded much essential information. The ... ... in the form of bar graphs and line graphs.

Conclusions

The results tend to indicate an overall positive growth pattern that seemingly is due to the effects of the Reading Achievement Center and the programs of the school. The different reading grade levels generated between the four achievement tests make determining the actual mean grade levels for each grade group difficult. The Spache Instructional Level is probably the best indicator, as the testing proceedure involved tends to "draw out" what the child really knows. The achievement tests, which the children took not according to actual grade level but by approximate reading level, are overly sensitive to extremes in scores; this is reflected in the disproportionately low scores of the Cooperative Primary.

In all, the program seems to be very effective in teaching reading to the children at Murchison. Accelerated rates of growth show that the RAC has improved reading achievement by on an average of about 25%. This certainly is impressive considering the gains have been so small before the initiation of the program. It is apparent that individualization, juxtaposed with motivation, can be extremely effective means of improving reading. Inner-city schools with the money for such a program might be well advised to consider implementation

of an individualized laboratory such as the Reading Achievement Center. The school benefits by showing improved reading scores; the classroom teacher benefits by having more time for supporting language arts studies with the skills being taught in the center; but most important, the children benefit by finally seeing themselves as succeeders, not simply because they are told that they are, but because they actually are.

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Footnotes

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2. Currently at the University of Oregon.