Chapter One Reading Programs: Do Student/Family Factors Make A Difference?

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Supplementary programs in basic skills, currently the Educational Consolidation Improvement Act – Chapter 1 – have been offered for over 25 years. Chapter 1 programs are typically in reading and math with the majority focusing on reading. School qualification for receiving federal Chapter 1 funds is based on whether or not the school serves low-income families; however, student eligibility to participate in a given school's program is based upon student level of achievement.

Criticism of Chapter 1 programs

Recently Chapter 1 programs have been severely criticized (Allington, 1987; Passow, 1990). Richard Allington, himself a Chapter 1 teacher in the 1970s, says that these programs are ineffective and costly, that time-on-task is minimal, that students spend too much time on skill and drill workbook activities, that Chapter 1 students miss more from leaving the regular classroom than they gain from the specialized attention in the Chapter 1 program, and that these students do not significantly increase their reading abilities while receiving special help in Chapter 1. Similarly, Passow (1990) describes Chapter 1 programs as providing a less challenging curriculum and limited achievement
goals, asserting that the typical pull-out nature of the programs actually hampers the ability of low-achieving students to develop critical thinking skills, lowers their learning expectations, stigmatizes them as inferior, and presents a fragmented program because of the lack of coordination between the classroom and the Chapter 1 program.

Three areas of Chapter 1 evaluation

The criticisms of Allington and Passow show that careful evaluation of the effectiveness of Chapter 1 programs is needed. Program evaluations during the last 25 years can be divided into three general areas: evaluation based upon compliance/funding issues; evaluation based upon student test score data; and evaluation examining characteristics that might influence student test score data.

Federal evaluations, based on state-collected data, typically evaluate effectiveness in terms of compliance with guidelines or financial issues (South Carolina State Department of Education, 1986; Brown, 1987; U.S. General Accounting Office, 1987). Other evaluations focus on level of achievement (North Carolina State Department of Public Instruction, 1988; Hawaii State Department of Education, 1988; Kaemper and Morse, 1985; Lewis, 1985; Ohio State Department of Education, 1985). The general achievement objective is 1.0 Normal Curve Equivalent (NCE) gain per month for every month of instruction, or an average gain of 7 NCE points from pre-test to post-test (Lewis, 1985), or, according to Chamberlain, Beck and Johnson (1983), a 1.5 NCE gain per month of instruction.

Yet other studies have attempted to isolate student and program characteristics that were associated with success. They have examined general program characteristics such as instructional focus (Leitner and Ingebo, 1984;

Allington (1984) suggested examining characteristics of effective remedial instruction in the areas of setting, curriculum, instruction, time, students and evaluation. He argued that Chapter 1 programs have remained static for too long with too little systematic investigation by members of the reading profession. In response, evaluations have been increasing in depth and breadth as researchers look at a variety of factors. For example, the Saginaw public schools took a macro-perspective in their program evaluation by extending the needs assessment far beyond looking at student test scores. A 65-item needs assessment questionnaire indicated that there were high priority concerns in the areas of professional development; parent and community involvement; program goals and objectives; recognition and reward of excellence; coordination with other school programs; instructional materials, methods and approaches;
leadership; and expectations of students (Michigan Department of Evaluation Services, 1987).

A closer look at student factors

One of the areas Allington noted as needing more rigorous investigation was the evaluation of the students themselves. Although program characteristics are certainly important, a complete look at the Chapter 1 picture must also consider the characteristics of the students who participate in these programs. Are students with a certain profile more likely to benefit from Chapter 1 reading services than students with a different profile? The influence of the following student factors might affect academic progress: entering achievement level; IQ; sex; general health; vision; hearing; grade; number of grade retentions; number of schools attended; number of years enrolled in a Chapter 1 program; level of attendance in the Chapter 1 program; general self-concept; attitude toward reading; level of effort expended in the Chapter 1 classroom; willingness to take a risk (try to guess, try new methods, etc.); and study habits, time-management and general organization. Family/parent factors may also affect achievement: level of interest of the parents in schooling; attitude with respect to the student being in the Chapter 1 program; parent-teacher contacts; parental difficulty with reading or learning to read; the family constellation; and socioeconomic background.

Prior studies have dealt with some of these student/family factors. A 1988-89 evaluation of gain made by Chapter 1 students in the Saginaw Michigan public schools (1989) indicated that overall the greatest gains in reading were made at the first grade level. New York City's program also showed initial gains being greater for students in the first year of Chapter 1 service (Halfar and Collins, 1987). On the other hand, Ashby (1985) reported that secondary
grade level gains were greater than elementary gains. Female gains were reported larger than male gains at both the elementary and secondary levels for Dade County Public Schools (Ashby et al., 1985). Students in two different three year longitudinal studies in the Portland public schools made greater gains when they were in the Chapter 1 program than after they were released, but these gains were attributed to the extent that Chapter 1 students engaged in positive behaviors rather than to the curricular quality of the programs (Yagi and Kushman, 1988).

The Cincinnati public schools set as two goals for 1985 for students in Chapter 1 programs to be as positive as their non-Chapter 1 peers in a) attitude toward self and b) attitude toward school. These goals were not met and the year-end report recommended that additional effort be expended to improve student attitude (Lewis, 1985). Similarly, the Elementary Counseling Project of Columbus Public Schools sought to improve the level of reading achievement as well as the social and personal behavior of students in 14 Chapter 1 eligible schools (Gibbons, 1984). The Ohio State Department of Education (1988) found that some of the most profound program benefits result from the involvement of parents and other community members in classroom activities as well as educational planning and funding. Similarly, the 1988-89 evaluation of Chapter 1 programs in the Austin Texas public schools (Christner, et al., 1989) showed impressive gains and was linked to the doubling of the number of parents who participated in the PAC advisory meetings and training sessions. In New York City's non-public Chapter 1 corrective reading program, parents' reading aloud in grades 1-3 was an important component. Achievement gains were greater than average and were statistically significant; thus, vigorous expansion of the
parent read-aloud component was a key recommendation (New York City Board of Education, 1990).

The present study

Any practitioner will note that some students make great NCE gains in reading achievement through being enrolled in a Chapter 1 program. Others not only do not gain, but fall farther behind. In a recent national study by the federal government (Sinclair and Gutmanns, 1991), for grades 2-12, average gains were from a low of -0.3 NCE gain for grade 12 to a high of 3.5 NCE gain for grade 6. Yet some individual students made 40-50 NCE gains for highs and others had a 40-50 NCE loss for lows. Therefore, the purpose of the present study was to isolate student and family characteristics that might have an impact upon student achievement in the Chapter 1 reading program. Often a school cannot adequately serve all of the students who are in need of remedial reading services. If characteristics of students likely to benefit from Chapter 1 reading services can be identified, then consideration of these factors and careful selection of students could generally increase the effectiveness of Chapter 1 programs.

Methodology

Teachers in eight different Chapter 1 programs were asked to complete questionnaires for the five students who had made the greatest gains in their program and for the five students who had made the smallest gains or who made no gain at all. The sample included 38 students in the high-achieving group (due to one teacher identifying only three high-achievers) and 40 students in the low-achieving group. All schools used spring-spring test results of a reading comprehension subtest of a general achievement test given in the regular classroom. School size ranged from under 300 to over 800 students. First, student data were
collected regarding sex of student, grade in school, the number of schools attended, IQ, and pre- and post-test scores in reading comprehension. Data were also collected for 19 student and parent/family characteristics that might impact upon student achievement: student self-concept; student risk-taking; student effort; student attitude toward reading; student study habits, time management and general organizational skills; student interest in program participation; general health of the student; vision; hearing; length of enrollment in the Chapter 1 program; number of times the student was retained; number of parent-teacher contacts; parental attitude regarding student placement in the program; amount of parental help with homework; parental difficulty with learning to read or write; family socioeconomic background; and family constellation. A two-tailed t-test was used to compare the mean gains for male and female students and to compare the means of high achievers and low-achievers with respect to the 19 analyzed factors.

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>HIGH ACHIEVERS</th>
<th>LOW ACHIEVERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>55% males</td>
<td>62% males</td>
</tr>
<tr>
<td>Number of schools attended</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Student grade in school (yr/mo)</td>
<td>4.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Student IQ score</td>
<td>97</td>
<td>93</td>
</tr>
<tr>
<td>Student entering NCE pre-test score in reading comprehension</td>
<td>29</td>
<td>39</td>
</tr>
</tbody>
</table>

**Results and discussion**

Informational data for both high- and low-achievers are presented in Figure 1. Fifty-five percent of the students in the high-achieving group were males and 62 percent of
the students in the low-achieving group were males. Both high-achievers and low-achievers had attended the same number of schools. The mean grade in school for both groups was the same, 4.7. The IQ scores for the high and low groups were 97 and 93, respectively. Thus, the two groups were similar for several important factors. The mean pre-test reading comprehension score for the high-achieving group was 29 NCEs; the mean for the low-achieving group was 39. For high-achieving students, the average NCE gain was 20, and for the low-achieving group, the average NCE gain was -15. Thus, in this sample, students who were lowest in reading comprehension, by pre-test scores, made the greatest gains. Gains made by males were similar to those made by females, 1.11 NCEs and 3.56 NCEs, respectively. (See Figure 2).

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.11</td>
<td>3.56</td>
</tr>
<tr>
<td>s.d.</td>
<td>22.15</td>
<td>17.91</td>
</tr>
<tr>
<td>t-score</td>
<td></td>
<td>-1.62</td>
</tr>
</tbody>
</table>

Although the highest and lowest scores were from different teachers, all teachers in the study had some students demonstrating great success and others demonstrating lack of success. The change in high achievers' scores ranged from -1 NCEs to +63 NCEs; for low achievers, changes ranged from -44 to +3. The largest difference for students in the same program ranged from a -23 NCE to a +63 NCE gain. The range of scores for the 78 students in this study underscores the need to further study of the students' personal and family characteristics (as well as of program characteristics). Figure 3 shows the level of
significance for the 19 student and parent/family factors analyzed. Factors are arranged in descending order, according to strength of the significance. The levels of response for the each factor are also noted.

<table>
<thead>
<tr>
<th>Factors</th>
<th>High Achievers</th>
<th>Low Achievers</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student self-concept</td>
<td>3.2 (.71)</td>
<td>2.2 (.89)</td>
<td>5.41</td>
<td>.001</td>
</tr>
<tr>
<td>Student risk-taking</td>
<td>2.4 (.74)</td>
<td>1.6 (.63)</td>
<td>5.10</td>
<td>.001</td>
</tr>
<tr>
<td>Student effort</td>
<td>3.3 (.84)</td>
<td>2.4 (1.08)</td>
<td>3.37</td>
<td>.001</td>
</tr>
<tr>
<td>Parent attitude regarding student placement</td>
<td>3.5 (.85)</td>
<td>1.6 (1.41)</td>
<td>3.36</td>
<td>.01</td>
</tr>
<tr>
<td>Student attitude toward reading</td>
<td>3.1 (.94)</td>
<td>1.6 (1.08)</td>
<td>3.00</td>
<td>.01</td>
</tr>
<tr>
<td>Student study habits/time-management/general organizational skills</td>
<td>2.6 (.63)</td>
<td>2.1 (.84)</td>
<td>2.94</td>
<td>.01</td>
</tr>
<tr>
<td>Student interest in program participation</td>
<td>3.4 (.67)</td>
<td>2.8 (.93)</td>
<td>2.67</td>
<td>.01</td>
</tr>
<tr>
<td>Parent interest in schooling in general</td>
<td>3.0 (.84)</td>
<td>2.5 (.97)</td>
<td>2.39</td>
<td>.01</td>
</tr>
</tbody>
</table>
Parental help with
homework  2.8  (1.24)  2.0  (1.50)  2.39  .05
3=supportive assistance; 2=minimal assistance; 1=too much assistance or no assistance

General health of
student  3.4  (.59)  3.2  (.69)  1.36  NS
4=excellent; 3=good; 2=fair; 1=poor

Student level of
attendance  3.7  (.58)  3.5  (.72)  1.35  NS
4=regular; 3=moderate; 2=irregular; 1=brief initial attendance

Family
collection  2.7  (.50)  2.5  (.77)  1.33  NS
3=two parent; 2=single-parent; 1-other

Parental difficulty with learning
to read or write  3.0  (1.18)  2.7  (1.42)  1.00  NS
4=parents appear to have no difficulty; 3=judgment cannot be made; 2=behaviors indicate difficulty; 1=parent(s) volunteered information about own or spouse’s difficulty with reading/writing

Student
retention  2.8  (.61)  2.7  (.56)  .74  NS
3=never retained; 2=one grade retention; 1=two or more grade retentions

Length of student’s enrollment in
Chapter 1  2.6  (1.59)  2.5  (1.58)  .21  NS

Student vision  2.9  (.00)  2.9  (.00)  .00  NS
3=no apparent problems; 2=did not pass vision screening; 1=possible serious difficulty

Student
hearing  3.0  (.00)  3.0  (.00)  .00  NS
3=no apparent problems; 2=did not pass hearing screening; 1=possible serious difficulty

Number of parent-teacher contacts to discuss/note
student’s progress during the year (by phone; in
person  4.8  (3.89)  4.9  (3.84)  -.11  NS

Family socio-economic
background  1.4  (.49)  1.6  (.49)  -.176  NS
2=qualifies for free/reduced lunch; 1=does not qualify for free/reduced lunch

*One teacher recorded information for only three high-achieving students.
Factors affecting student achievement: Nine factors were found to affect student achievement in the Chapter 1 program significantly (See Figure 3.) Three factors had a significant and positive bearing on student achievement at p<.001: 1) the student’s self-concept; 2) the student being described by the teacher as an academic risk-taker, willing to predict/hypothesize, make educated guesses; and 3) a high level of student effort. Three other factors had a significant effect on student achievement at the .01 level: 1) the parents wanting the student to be in the program; 2) the student having a positive attitude toward reading; and 3) the student having good study habits, time-management skills and general organizational abilities. Three factors were significant at the .05 level: 1) the interest the student had in participating in the program; 2) the level of interest of the parents in schooling in general; and 3) the amount of parental help the student received with his or her homework. Six of these significant factors were student-oriented, and three were parent/family-oriented.

Significant student characteristics. Six student characteristics most significantly affecting student achievement are particularly interesting because they are ones that might be characterized as being within the teacher’s sphere of influence. Significant at p.<001, were student self-concept, academic risk-taking behavior (willing to guess, trying new methods, etc.), and student effort. While the teachers rated the self-concept of those in the high-achieving group as somewhat positive, a mean of 3.2, the mean of those in the low-achieving group was rated as somewhat negative, a mean of 2.2. High-achieving students were viewed as moderate-to-high risk-takers, with a mean of 2.4, and low-achieving students were viewed as low-to-moderate risk-takers, with a mean of 1.6. A related influencing factor was
level of effort expended in the Chapter 1 classroom, with the high-achieving group viewed as expending greater effort. The high-achieving group mean was 3.3 compared to the 2.7 mean for the low group.

Significant at p<.01 were student attitude toward reading and study habits/time-management/general organization skills. Students in the high-achieving group were viewed as being somewhat interested in reading and students in the low-achieving group were viewed as being neutral, with means of 3.1 and 2.4, respectively. Although study habits/time-management/general organization skills were not particularly strong for either group, the high-achieving students were rated somewhat below average, a mean of 2.6, while the low-achieving students were rated as definitely below average, a mean of 2.1.

A last characteristic, significance at p<.05, was the student's attitude toward participating in the reading program. Students in the high-achieving group were somewhat to very interested with a mean of 3.4; students in the low-achieving group were not interested to somewhat interested with a mean of 2.8.

**Student factors not significant.** Six student factors were of interest because they were not found to vary significantly for the 38 high achieving Chapter 1 students as compared to the 40 low-achieving Chapter 1 students: 1) health, 2) vision, 3) hearing, 4) grade retention, 5) length of enrollment in the Chapter 1 program and 6) level of attendance.

The general health of both groups was rated as good, with high achieving students having a mean of 3.4 and low-achieving students having a mean of 3.2. Similarly, no
apparent vision or hearing problems were noted for either group, with both groups having means of 2.9 for vision and 3.0 for hearing.

Neither did grade retention have an effect. The mean for high achieving students was 2.8 and for the low-achieving students was 2.7 (3 = no retentions), indicating that few students had been retained. Related to this, the number of years enrolled in a Chapter 1 program did not differ for the two groups; the high-achieving students had been enrolled for a mean of 2.6 years and the low-achieving students for 2.5 years. The hypothesis that the longer a student is in a Chapter 1 program, the less likely the student is to continue to achieve did not appear to be valid for this sample. Interestingly, level of attendance in the Chapter 1 program did not differ for the two groups. The means for the high-achieving group and for the low-achieving group were similar, 3.7 and 3.5, respectively, indicating a moderate to regular level of attendance for both groups.

**Significant parent/family characteristics.** Of the parent/family characteristics assessed, the ones that had the greatest effect were ones which the teacher might influence (see Figure 3). Significant at p<.01 was the attitude of the parent about the student being in the Chapter 1 program. Parents of high-achieving students were more interested in having their sons and daughters in the Chapter 1 program than were parents of low-achieving students. Although the parents of the high-achieving students were rated as midway between somewhat positive and positive, parents of low-achieving students were rated midway between somewhat negative and somewhat positive, with means of 3.5 and 2.6, respectively.
Significant at the .05 level were the interest of the parents in schooling in general and level of assistance with homework. The level of interest of the parents in schooling was somewhat higher for the high-achieving group than for the low-achieving group, means of 3.0 and 2.5, respectively, with 3.0 indicating medium interest and 2.0 indicating low interest.

High-achieving students were likely to receive minimal parent assistance with homework; on the other hand, low-achieving students were likely to receive either too much assistance or no assistance at all. The two groups had means of 2.8 and 2.0, respectively. The reader should note that neither parental group was viewed as giving supportive assistance. Also of interest is that teachers were able to note the level of assistance for all but two of the 38 students in the high-achieving group; however, they indicated that they did not know the type of parental assistance that was given for 10 of the 40 students in the low-achieving group.

Parent/family characteristics not significant. Other family/parent factors assessed are noteworthy because they did not significantly relate to whether the student was in the high-achieving group or the low-achieving group: 1) number of parent-teacher contacts; 2) parental difficulty with learning to read; 3) family socioeconomic background; and 4) family constellation.

The number of parent teacher contacts was not significantly different for the two groups. The high-achieving group had a mean of 4.8, and the low-achieving group had a mean of 4.9. Neither was a difference noted with respect to parent difficulty with reading. Parents in both groups were viewed as evenly divided between those who did and did not have difficulty learning to read. Socio-economic
background was not a significant factor; 42 percent of students in the high-achieving group and 60 percent of students in the low-achieving group qualified for a free/reduced lunch. Similarly, family constellation was not a significant factor; 76 percent of the students in the high-achieving group were from two-parent families, and 58 percent in the low-achieving group were from two-parent families. Although differences in socioeconomic status and family constellation were noted, the differences were not great enough to reach significance.

Summary

Study results show that student and parent/family characteristics affecting achievement in the Chapter 1 program can be identified. Although personal to the students and their families, these characteristics are ones that the teacher can possibly influence. Most important were the student's self-concept, the student's ability to take a risk, the student's effort, the student's study habits/time management/organizational skills, the student's attitude about reading, and the parent's attitude about the student participating in the reading program. On the other hand, those characteristics not within a teacher's ability to influence were found to be ones that did not have a significant effect on student achievement.

Limitations of the study. The sample of this study is relatively small. Thus, caution must be exercised when generalizing results. Also, student and parent/family characteristics were determined by school records and teacher perceptions rather than documented by student and parent response. An additional limitation is that the study was not longitudinal. Continuing to follow the high-achieving group and the low-achieving group may show in succeeding years that students in both groups regress or
advance to their personal means. Replication of this study will show whether or not the factors noted as significant or not significant are consistently true.

**Educational implications.** As we look at the variety of variables that might impact upon Chapter 1 effectiveness, we will learn more about the value and worth of Chapter 1 programs. Student experiences both in and out of school and both student and parent attitudinal factors need to be considered when evaluating a school's Chapter 1 program effects on student achievement (Yagi, et al., 1986).

As teachers and administrators consider ways to help students in their Chapter 1 programs make greater progress, they should consider affective student and parent characteristics. Central to the program, regardless of the instructional focus, should be encouraging a student's positive self-concept and a love for reading. A program where students have a choice of reading materials, one where they spend most of their time reading real literature, and one where they also have an opportunity to listen to good children's literature should help to promote this love of reading. Instruction which encourages students to take risks (to make educated guesses and to predict) invites increased achievement. Teachers need to encourage students to be active in their learning, to make use of their prior knowledge and experiences, and to think. A focus on organizational skills, good study habits, and time management should also be a part of the Chapter 1 program. These aspects of study skills are ones that are appropriate for students of all ages and should be directly taught and modeled for Chapter 1 students. All of the above will be likely to have an impact on student effort which, in turn, impacts upon student achievement.
Chapter 1 teachers should also consider the attitude and needs of the parents. Teachers might help parents to understand the program and the teacher’s philosophy of teaching through friendly letters, newsletters and meetings. Parents can also be encouraged to be involved in the curriculum. Perhaps parents could get together via the Parent Advisory Council and collaboratively make books for the children to read. Various parents might contribute a story about a favorite relative to a book entitled *People We Love*. Or perhaps parents could compile a book of favorite rainy day things to do. Parents might also be more personally involved as they come to the Chapter 1 room to listen to their own or other children read. Teachers and interested parents together probably could compose a list of ways to involve parents that would surpass what teachers or administrators alone might devise. Parent involvement on more than just a nominal basis might greatly affect parental attitude toward school as well as toward their students’ Chapter 1 program participation.

Also important is communicating to the parents the type of assistance with homework that is most beneficial to the student. Although teachers frequently send home ideas for parents regarding how to help their children with reading, a discussion of the level of help that is either supportive or detrimental to student achievement should be considered. Teachers should also share ways that parents who are not able readers themselves can help their students.

Positive feelings on the part of both Chapter 1 students and their parents is the place to begin. The next step is to consider how particular programmatic considerations can positively influence this affective domain as well as be based upon effective instructional principles.
References


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**Journal of Reading**

**Call for Papers**

The *Journal of Reading* has planned a themed issue for April 1994 on the topic of how teenagers and their teachers interact through talk, especially talk about the things teens are reading in and out of school. Guest editor Rosalind Horowitz has issued an open call for papers related to the topic. Papers must be received by **May 15, 1993**.

Mail papers to Dr. Rosalind Horowitz, Reading and Literacy Education, The University of Texas-San Antonio, San Antonio TX 78249-0654, USA. Further information is available by phone at (512) 691-5418.