

**Evaluation of the Accelerated Reading Instruction (ARI) and
Accelerated Math Instruction (AMI) Program**

2003-2004 School Year

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EXECUTIVE SUMMARY

The Student Success Initiative (SSI), originated by Senate Bill (SB) 4 of the 76th Texas Legislature, and expanded during the 77th and 78th Texas Legislatures, aims to provide students with comprehensive research-based instruction to prepare them for academic success. A major component of the SSI mandates new grade advancement requirements requiring that students advance to the next grade level only if they meet the passing standard of specified sections of the Texas Assessment of Knowledge and Skills (TAKS) or if the student's Grade Placement Committee determines unanimously that the student is likely to be successful at the next grade level with accelerated instruction. In order to ensure that the students meet these goals, the Legislature has funded a number of major education initiatives including teacher reading and math academy training, diagnostic assessment of students, and funding for the Accelerated Reading Instruction (ARI) and the Accelerated Math Instruction (AMI) programs for students struggling in these subject areas.

The focus of this report is the ARI/AMI program. It identifies the students served by the program and how funds were used by local education agencies (e.g., school districts and open-enrollment charter schools) to achieve program goals, and concludes with an analysis of aggregated student achievement outcomes for program participants.

Program Reach

The ARI program has expanded over the years since its inception during the 1999-2000 school year. Each year, an additional grade has been added and subsequently increasing numbers of students have been expanding the reach of the program. By the 2003-04 school year:

- The ARI program provided service to more than five times the number of students that it served during its initial year (75,340 during the 1999-00 school year and 388,619 during 2003-04);
- The AMI was added; during the 2003-04 school year it served 273,810 struggling math students; and

- ARI/AMI program funding was used to serve, at least in part, well over 80% of the K-4 students identified as being at risk in either reading or math. Services provided to the student population not served through the ARI/AMI program were funded exclusively through other sources.

Spending and Strategies

Analysis of how local education agencies (LEAs) used their ARI/AMI funds revealed that:

- Over 90% of all 2003-2004 ARI/AMI funds were concentrated in two broad budget categories--payroll costs and supplies/materials; and
- Most LEAs spent the bulk of their funding on four specific budget items: teacher pay (27%), tutor pay (10%), supplemental curriculum (26%), and other materials (16%).

The predominant instructional grouping strategies and time of instruction strategies used by the districts indicate that they are in line with recommended “best practices” regarding the most effective instructional strategies. Key findings related to these strategies are as follows:

Instructional Grouping Strategies

- Of the LEAs that reported that either teacher pay (37%) or tutor pay (10%) was their largest ARI budget category, between 81% and 88% of the LEAs indicated that they used these funds predominantly for small group instruction—this finding also held for AMI;
- Of the LEAs that reported that supplemental curriculum (22%) was their largest ARI budget category, 64% of the LEAs indicated that funds were used primarily for small group instruction and 27% noted that funds were concentrated on whole group instruction. Small group instruction was also the preferred strategy for the use of AMI supplemental curriculum funds.
- Of the LEAs that reported that “other materials” (17%) was their largest ARI budget category, 56% of the LEAs indicated that funds were used primarily for small group instruction and 37% reported that funds were spent predominantly for whole group instruction. Similar to the other budget categories included in this

analysis, small group instruction was also the preferred strategy for the use of “other materials” used for the AMI program.

Instructional Timing Strategies

- There was substantial variation in how LEAs spent ARI and AMI funds on the various instructional timing strategies (i.e., before school, during school, after school, summer school).
- Of the LEAs that indicated that teacher pay was their largest ARI budget category, over half (51%) noted that these funds were used primarily for regular school day instruction, 30% reported that the funds were used mostly for summer school instruction, and 17% indicated that teacher pay was used mainly for after school intensive instruction.
- AMI funds for teacher pay were more evenly distributed across timing of instruction strategies: regular school day (39%); summer school (36%); and after school (25%).
- Of the LEAs that indicated that tutor pay was their largest ARI budget category, over half (54%) reported that these funds were used primarily for regular school day instruction. However, tutor pay was more likely than teacher pay to be used primarily for after school instruction (40%), and less likely to be used for summer school (5%).
- Of the LEAs that indicated that tutor pay was their largest AMI budget category, 47% of the LEAs reported that these funds were used primarily for after school instruction; while 42% of the LEAs noted that they were used predominantly for regular school tutoring and only 10% were utilized for summer school tutoring services.
- Not surprisingly, of the LEAs that indicated that supplemental curriculum materials was their largest AMI budget category, the vast majority spent their ARI funds (73%) and AMI funds (79%) primarily to support regular school day instruction.

Outcomes

- Early Reading Instruments (ERI) results for LEAs, as well as ARI/AMI-specific measures, suggest that the program is working to bring struggling children on grade

level by the end of the grade year. Evidence of improvement in student performance at LEAs show that:

Reading Results

- Of students, kindergarten through Grade 4, served by the ARI program, 70% were reading on level by the end of the year;
- The proportion of ARI students reading on level by the end of the school year was lowest in Grade 1 (64%) and highest in Grade 3 (81%).
- Overall, LEAs had larger percentages of children testing as “developed on screen” at the end of the year when compared to their performance at the beginning of the year;
- Tests for associations between the predominant grouping and time of instruction strategies used and the proportions of students on level by the end of the year yielded only small differences and should be interpreted cautiously;
- Grade 3 and Grade 4 ARI students from LEAs with small groups as the predominant grouping strategy had slightly higher and statistically significant proportions of students passing the reading portion of TAKS than those that used other strategies.

Math Results

- Of the 273,810 students, kindergarten through Grade 4, identified as struggling in math and participating in the AMI program, 84% were on level in mathematics by the end of the year;
- Similar to the reading results, the proportion of AMI students on level in mathematics by the end of the school year was lowest in Grade 1 (79%) and highest in Grade 3 (88%)

Overall, ARI/AMI funding to promote accelerated instruction in reading and math appears to be reaching Texas schoolchildren in need and is working to achieve positive outcomes for these students in Grades K-4.

SECTION I: INTRODUCTION

The Student Success Initiative

The Student Success Initiative (SSI), through the Texas Reading Initiative, the Texas Math Initiative, and recent efforts to improve student readiness in science, originated during the 76th Legislature in 1999 and was expanded during the 77th and 78th Legislative Sessions. A major component of the SSI mandates new grade advancement requirements. As specified by these requirements, a student may advance to the next grade level only by meeting the passing standard of the Texas Assessment of Knowledge and Skills (TAKS) tests in these program areas or if the student's Grade Placement Committee determines unanimously that the student is likely to perform at the next grade level with accelerated instruction. Implementation of the SSI grade advancement requirements are being phased in as follows:

- 1) Beginning in the 2002-2003 school year, and continuing thereafter, for the Grade 3 TAKS Reading test;
- 2) Beginning in the 2004-2005 school year, and continuing thereafter, for the Grade 5 TAKS Reading and Mathematics tests; and
- 3) Beginning in the 2007-2008 school year, and continuing thereafter, for the Grade 8 TAKS Reading and Mathematics tests.

Major Initiatives of the SSI

As noted above, a key component of the SSI legislation requires that Grade 3 students meet the passing standard of the reading portion of the TAKS and Grade 5 students meet the passing standard of the reading and mathematics portions of the TAKS, in order to be promoted to the next grade level. The reading requirement began in 2003 and continues for enrolled Grade 3 students each school year thereafter, and the reading and mathematics requirement goes into effect in 2005 for students in 5th grade. In order to ensure that Texas students meet these goals, the Legislature funded four major initiatives:

- Teacher Reading and Math Academy training;

- Diagnostic assessment (Commissioner’s List of Early Reading Instruments);
- Accelerated Reading Instruction (ARI) funding for early reading instruction intervention efforts for those students who, based on the results of the Early Reading Instruments, have been identified to be at-risk for reading difficulties, including dyslexia; and
- Accelerated Math Instruction (AMI) funding for early mathematics instruction intervention efforts for those students who, based on the results of the diagnostic assessments, have been identified as struggling mathematics learners.

The focus of this evaluation report is the ARI/AMI program. Beginning with the 1999-2000 school year, LEAs began implementation of early intervention programs to accelerate reading instruction for those students identified as at-risk for reading difficulties. In 2003-04, the program was expanded to include intensive mathematics instruction, in addition to reading instruction, which has been part of the program since its inception.

ARI/AMI Funding

The ARI/AMI program provides immediate, intensive, accelerated instruction in reading and math for students struggling in those program areas. Priority is given to the students in greatest need as identified by results of diagnostic tests. For both reading and math, the program recommends 30 to 45 minutes of targeted instruction per day with flexible small groups (up to four students) and the use of scientific-based instructional strategies. Program guidelines also recommend intervention during the regular school day with frequent monitoring of student progress during the year.

The ARI/AMI program was phased in, starting with Kindergarten, during 1999-2000; Kindergarten and Grade 1 during 2000-2001; Kindergarten through Grade 2 in 2001-2002; Kindergarten through Grade 3 in 2002-2003; and Kindergarten through Grade 4 in 2003-2004 (and the additional intensive math instruction component). This phase-in period paralleled the roll-out of the Teacher Reading Academies (TRAs)—starting with Kindergarten teachers in 1999-2000 and progressing through the training of Grade 3 teachers in 2002-2003. The TRAs were conducted during the summer break following the school year.

ARI/AMI funding consists of non-competitive grants awarded on a formula basis. Funding in 2003-2004 for ARI was based on the number of students who did not pass the first administration of the 2003 Grade 3 TAKS reading assessment. LEAs received \$1,007 for each student who failed to pass the reading portion of the Grade 3 TAKS. Since TAKS math testing is not required as a condition of the SSI grade advancement requirements for Grade 3, the 2003-2004 AMI funding was based on the number of students who did not pass the first administration of the 2003 Grade 5 TAKS math section. LEAs received \$1,007 for each child who did not pass the Grade 5 math section of the test. Historical funding levels for the program for the past four years are as follows:

- 2000-2001: \$65.2 million;
- 2001-2002: \$57.5 million;
- 2002-2003: \$106.4 million; and
- 2003-2004: \$75.1 million.

This report is based on an analysis of 2003-2004 school year data, when the program targeted all students in Grades K-4 who were identified as struggling in reading and math.

The purpose of this report is as follows:

- to provide a snapshot of the students served by the 2003-2004 ARI/AMI program funding;
- to describe how the funds were used by LEAs to improve student achievement in reading and mathematics; and
- to determine the impact the program has had on student achievement for students struggling in reading and mathematics.

The findings presented in this study are based on three reports submitted by LEAs in fall 2004 for the 2003-2004 school year (i.e., September 1, 2003-August 31, 2004): 1) the ARI/AMI Program Evaluation Report; 2) the Early Reading Instruments (ERI) Report; and 3) the Final Expenditure Report.

Organization of the Report

Following this introduction, Section II describes the student populations identified as struggling in math and reading, as well as how many of these students were served by the ARI and AMI programs. Section III describes how LEAs used their funding by showing how the money was distributed across different budget items. It also looks at LEA reports on how the money was used for instructional grouping strategies and time on instruction strategies. Section IV details reading and math outcomes for ARI and AMI participants. Tests to determine whether there were statistically significant differences in outcomes according to the LEA's predominant instructional grouping strategy or time of instruction strategy are also presented in this section. Section V concludes this report.

SECTION II: STUDENTS IDENTIFIED AND SERVED

With the goal of providing early intervention to address reading difficulties in elementary school students, the ARI program targets struggling readers who have been identified as such either by approved diagnostic assessment tools or by another method of assessment that has been selected by their district committee, and with input from their teachers. Accelerated reading instruction means that struggling readers receive immediate, systematic and explicit instruction using materials and methods that have been proven to be effective. While the SSI specifically requires that students failing each administration of the TAKS be provided with accelerated instruction, ARI funding should be directed to the specific reading skills that have been determined as requiring development but should not use TAKS Preparatory (Prep) materials *per se* in the provision of instruction.

Total Students Served, 1999-2004

The ARI program was initiated in the 1999-2000 school year, the year that the SSI was established. During the first year of funding (1999-2000), the ARI program served 75,340 kindergarten students (Table 1). ARI funding was subsequently expanded, each year serving an additional grade. The ARI/AMI phase-in process mirrors the SSI grade advancement requirements, and the roll-out of the TRA training that was also phased in. The cohort of kindergarten students who were served by ARI during 1999-2000 is comprised of the same students who will reach each of the key SSI milestones for grade advancement when they reach the 3rd, 5th, and 8th grades.

As previously noted, each subsequent year that the ARI program has been in place, an additional grade level has been added to those served. As Table 1 indicates, the largest increase in the number of students served by the program occurred in the 2000-2001 school year, when nearly three times as many students were served (203,907) compared to the year before. By the 2003-2004 school year the ARI program was serving more than five times the number of students that it served during its initial year—a total of 388,619 students in kindergarten through fourth grade were served by the ARI program in 2003-2004.

The AMI program is similar to the ARI program in that it aims to reach students who are struggling in math by providing LEAs with resources to target these students with research-based methods of instruction and best practices. While the ARI program began in 1999-2000, the AMI program funding began in 2003-2004, one year before the SSI requirement for Grade 5 advancement went into effect. During this initial year of funding, AMI served 273,810 students in grades K through 4 (Table 1).

Table 1: Total Number of Students Served by the ARI/AMI Program, 1999-2004

School Year	Number of Students Served	
	ARI	AMI
1999-2000	75,340	-
2000-2001	203,907	-
2001-2002	304,657	-
2002-2003	327,668	-
2003-2004	388,619	273,810
Total	1,300,191	273,810

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Note: During the 1999-2000 school year, only Kindergarten students were served. Grades K-1 were served during the 2000-2001 school year, Grades K-2 were served during the 2001-2002 school year, Grades K-3 were served during the 2002-2003 school year, and Grades K-4 were served during the 2003-2004 school year. Accelerating instruction services for struggling math learners was added to the program in school year 2003-2004.

During the 2003-2004 school year, ARI and AMI program funding served over three thousand campuses in the state with a total enrollment of 1,621,164 students in the kindergarten through fourth grades (Table 2). As noted above, each district was provided ARI funding according to the number of students in that district failing to meet the passing standard in the first administration of the 2003 Grade 3 TAKS assessment in reading, and AMI funding according to the number of students in that district failing the 2003 Grade 5 TAKS assessment in math. Districts are provided with one formula-based allocation for the ARI/AMI program and are allowed to allocate funds to math or reading in any proportion that meets the needs of their struggling students.

Students in grades K through 4 found to be struggling in either subject were identified by the district and targeted for accelerated instruction. Of those students identified as struggling in either reading or math, ARI or AMI funding could be used exclusively or in part to fund accelerated instruction mandated by the SSI. LEAs receiving other types of funding (e.g., local funds, state compensatory education entitlements, migrant program

funding, Title I funds, optional extended year program funds, etc.) could also use those monies to provide accelerated reading or math instruction to students. The number of students enrolled that were identified as struggling and the number of those identified that were served at least in part by ARI and AMI funds are discussed in subsequent sections of this report.

Table 2: Number of Campuses and Total Number of Students Enrolled in Districts Receiving ARI/AMI Funding, 2003-2004 School Year

	Grade				
	K	1	2	3	4
Number of Campuses Served with ARI/AMI Funds	3,416	3,496	3,600	3,632	3,602
Estimated Number of Students Enrolled for Reporting Districts	321,506	336,061	324,243	320,832	318,522

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Students Identified as Struggling Readers

Within each district, an assessment instrument on the Commissioner's List of Early Reading Instruments is used to determine if a student is struggling in reading and is in need of accelerated reading instruction. As Table 3 reflects, nearly 463,000 students in grades K-4 were identified as struggling readers during 2003-2004 and approximately 389,000 of these students received accelerated reading instruction through the ARI program.

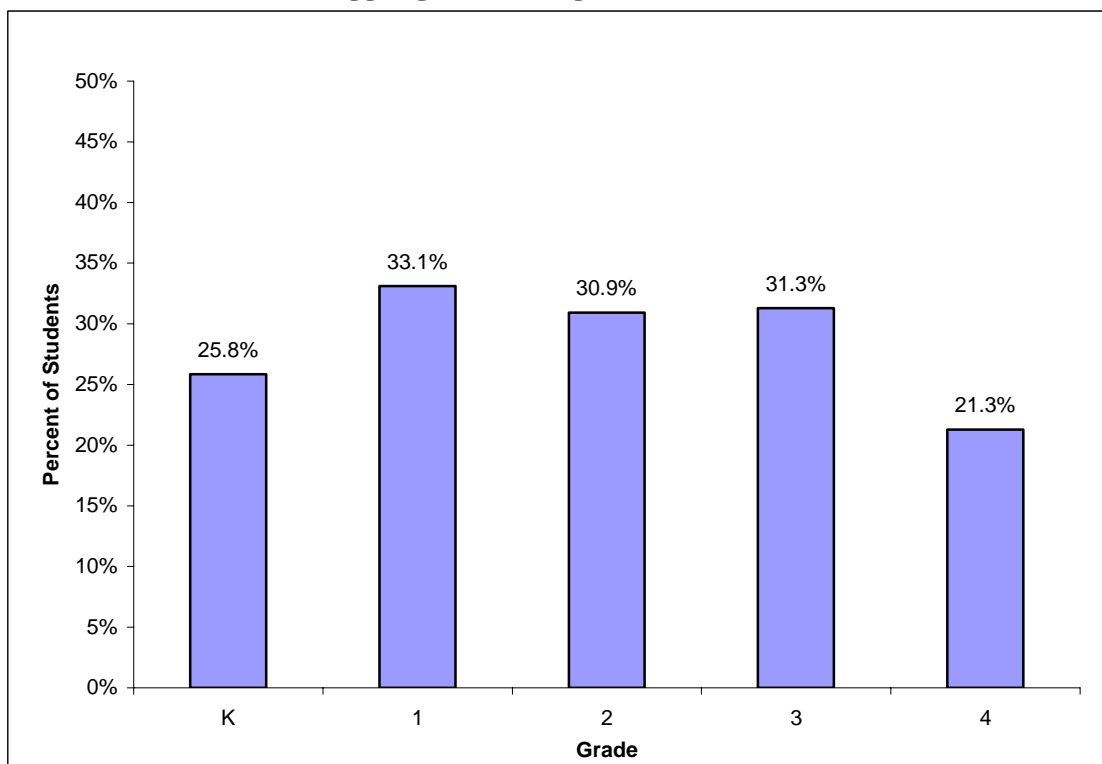
Table 3: Number of Students Identified and Served by the ARI Program, 2003-2004 School Year

	Grade					
	K	1	2	3	4	Total
Number of Students Identified for ARI Program	83,069	111,252	100,254	100,393	67,792	462,760
Number of Students Served by ARI Program	69,456	91,739	83,632	86,605	57,187	388,619

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Figure 1 illustrates the proportion of students identified as needing accelerated reading instruction expressed as a percentage of the total enrolled in each grade. Percentages for first, second and third grade are relatively consistent—ranging from 31% to 33%. Overall, the percentage of students identified as being in need of accelerated reading instruction ranged from a low of 21% of fourth grade students to a high of approximately one-third (33%) of first grade students—a twelve percentage point difference between the two grades. Similarly, the number of struggling readers identified for Kindergarten is lower than for grades 1 through 3 with 26% of Kindergarten students identified as needing accelerated instruction.

Figure 1: Percent of Students Enrolled who were Identified as Struggling in Reading, 2003-2004 School Year



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Whether the differences in the proportion of students requiring accelerated reading instruction indicate a real difference in the numbers of struggling students in kindergarten and Grade 4 compared to the other grades, or whether they indicate a challenge to identifying struggling readers in these grades cannot be determined from the data available. However, it is worthwhile to note that a lower percentage of identified kindergarten

students may be due in part to the fact that the most commonly used instrument for assessment, the Texas Primary Reading Inventory (TPRI) does not assess kindergarten children until the middle of the year. By mid-year, kindergarten students that might have been struggling at the beginning of a school year may have improved significantly.

Additionally, the TPRI early reading assessment instrument applies to grades K through 2. However, given that students in the third grade are subject to the SSI grade advancement requirements for the reading portion of the TAKS, it is not surprising that although an early reading assessment instrument was not provided by the state¹ for Grade 3, many third graders were identified as needing accelerated reading instruction. In contrast, Grade 4 students, in different immediate circumstances (i.e., not facing the TAKS reading component for grade advancement), may not have been focused on as intensely as those in Grade 3. Nevertheless, TEA, citing the focus that prior grades (i.e., K-3) had received in previous years, recommended that students in grades 3 and 4 should receive instructional priority in 2003-2004.

Struggling Readers Identified and Served by the ARI Program

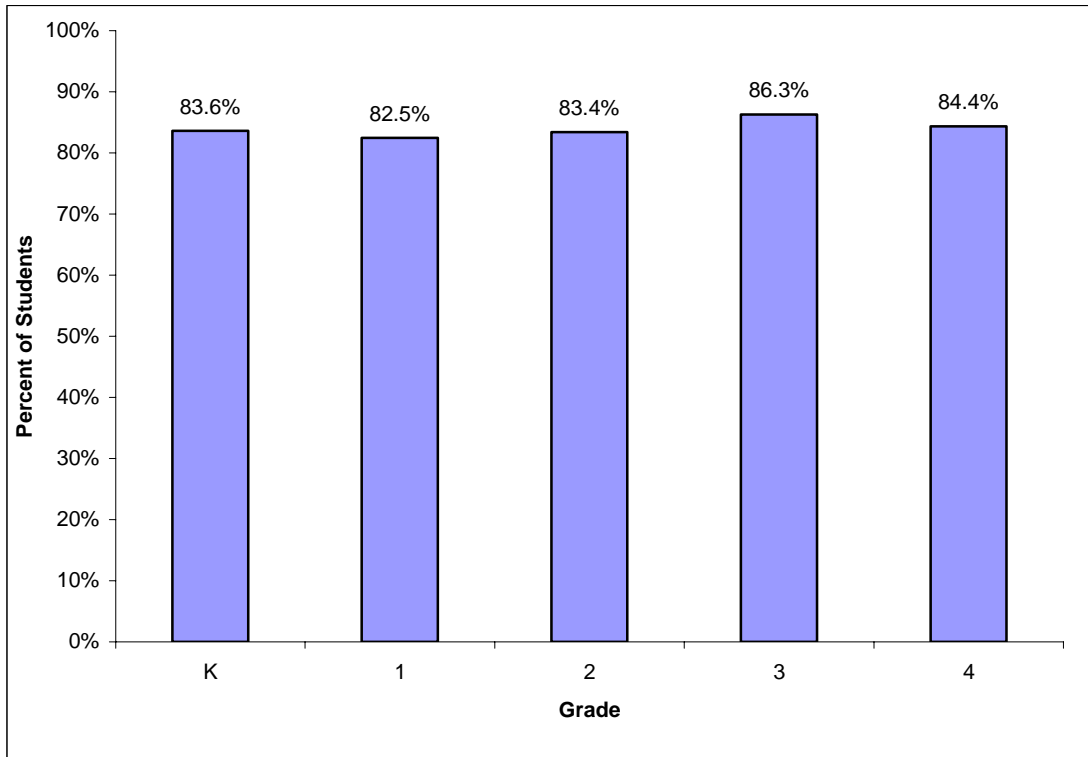
The SSI mandates that LEAs provide instruction to all students identified as needing accelerated reading instruction. Upon having identified students who require accelerated instruction, districts may determine at their discretion how they will coordinate funds for the instruction. As previously noted, some districts may be using other funding streams to supplement ARI/AMI funding.² LEAs may also, at their discretion, distribute the ARI/AMI funds as they see fit between math and reading to best meet their needs.

The total number of students served by the ARI program ranges from 57,187 fourth grade students to 91,739 first grade students (Table 3). Figure 2 illustrates that the vast majority (83% to 86%) of the students identified as struggling in reading were served at least in part through the ARI program. This indicates that just 14 to 17 percent of students identified as struggling readers received accelerated reading instruction that was funded exclusively with funds other than ARI. Clearly, ARI funding plays an important part in the provision of SSI mandated accelerated instruction for students not reading at grade level.

¹ The ERI diagnostic tests provided by the state at no charge apply to Grades K to 2; however, other diagnostic tools are commercially available to LEAs and may target other grades.

² ARI and AMI funding is intended to supplement, not supplant, such funding.

Figure 2: Percent of Students Identified as Struggling in Reading who were Served by the ARI Program, 2003-2004 School Year



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Students Identified as Struggling in Math

Nearly 326,000 students were identified as struggling mathematics learners during the 2003-2004 school year and approximately 84% of these students were served through the AMI program. Students in kindergarten through Grade 4 identified as struggling in math ranged from a low of 46,908 Kindergarten students to 83,533 third grade students (Table 4).

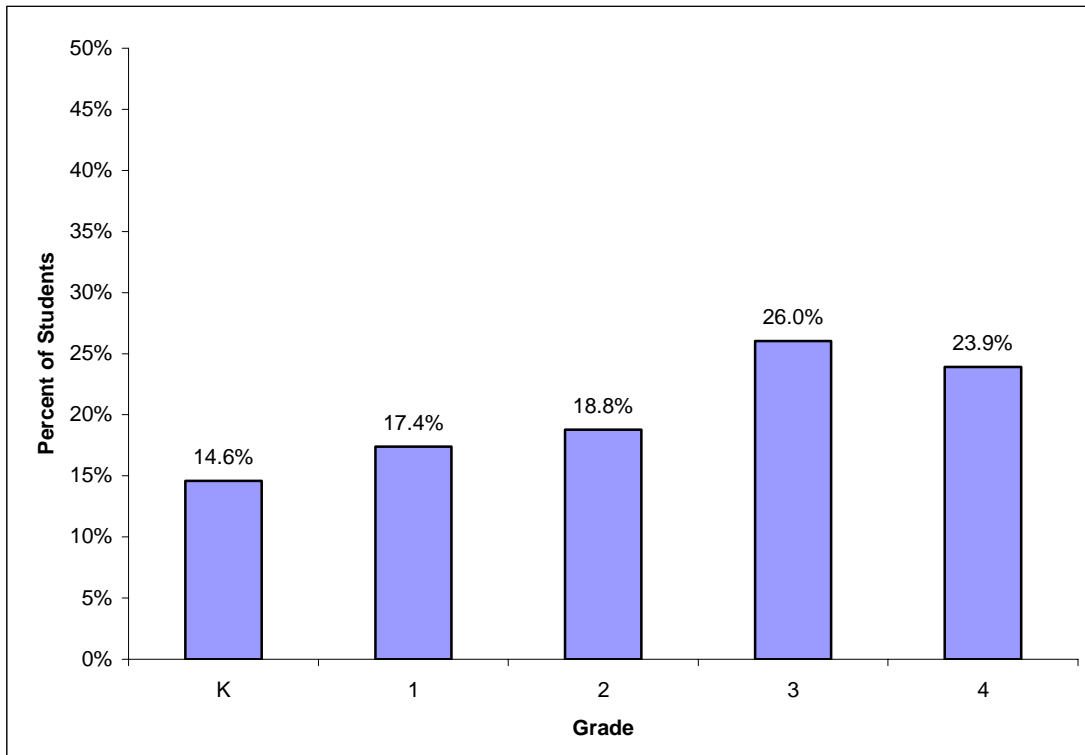
Table 4: Number of Students Identified and Served by AMI Program, 2003-2004 School Year

	Grade					Total
	K	1	2	3	4	
Number of Students Identified for AMI Program	46,908	58,431	60,874	83,533	67,792	325,906
Number of Students Served by AMI Program	38,661	47,632	50,393	71,213	57,187	273,810

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

The number of students identified as being in need of accelerated math instruction as a percentage of total students enrolled for each grade ranged from 15% in kindergarten to 26% in Grade 3 (Figure 3).

Figure 3: Percent of Students Enrolled who were Identified as Struggling in Math, 2003-2004 School Year



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

The differences in the numbers of students identified as needing accelerated instruction in math compared to those identified as needing accelerated instruction in reading are evident. In Grades K to 3 the percentages of students enrolled who were identified as struggling in reading all exceed the percentages of students enrolled who were identified as struggling in math. The lowest percentage point difference is 9 percentage points (Grade 3) and the greatest difference is 16 percentage points (Grade 1) (Figures 1 and 3). Grade 4, on the other hand, differs from all other grades. For this grade, a greater percentage of students enrolled were identified as struggling in math than were identified as struggling in reading (24% and 21% respectively, Figures 1 and 3).

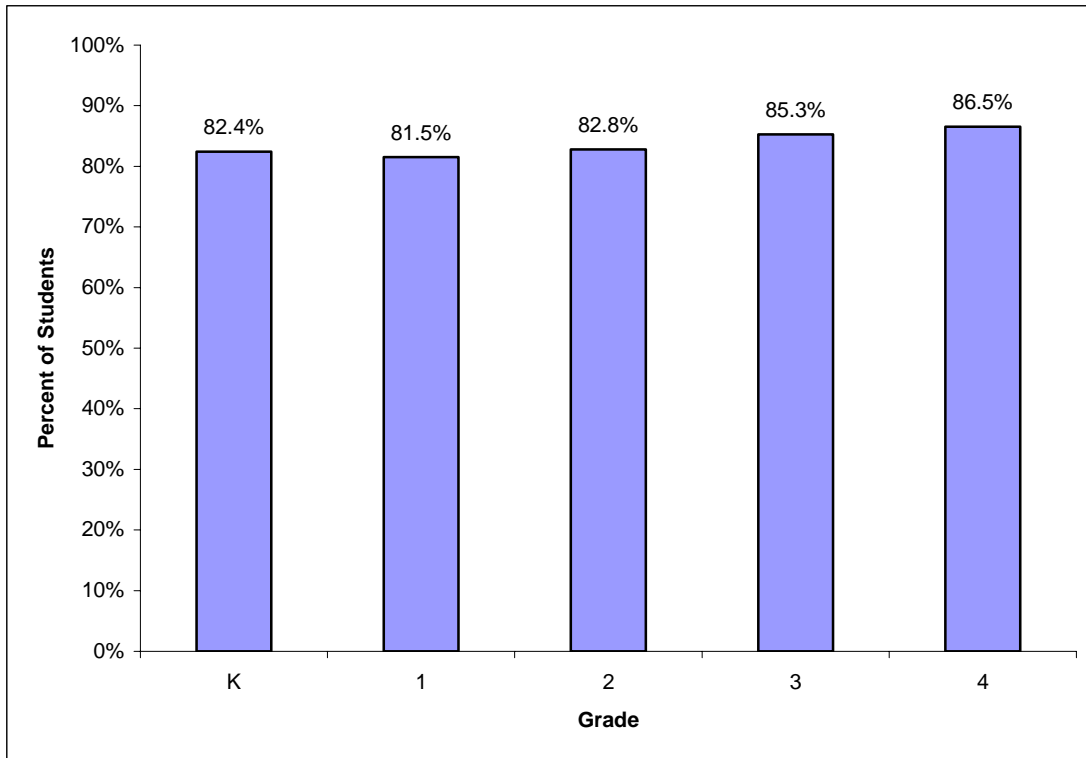
According to the *2004 Comprehensive Annual Report on Texas Public Schools*, TAKS passing rates in math for Grade 3 and Grade 4 are higher than those for reading, although the differences are only slight, 86% and 84% respectively for Grade 3 and 81% and 80% respectively for Grade 4 (TEA, 2005). Because the differences in TAKS scores in each program area are slight, there is no reason to suggest that either of these grades has children who struggle more so in one program area than the other. As noted earlier, the greater proportion of Grade 3 children identified as struggling in reading could be attributed to an increased emphasis on this program area due to upcoming TAKS testing for grade placement.

For Grade 4 this is not the case and the slightly higher percentage of Grade 4 students identified as struggling in math than in reading might be attributable to the method of assessment. The 2003-2004 school year was the first year that AMI funding was provided to LEAs. Furthermore, a math diagnostic test similar to the various Early Reading Assessment tests is not available for the early grades. The Texas Math Diagnostic System is only available for Grade 4 students (as well as for Grades 5 through 8). It seems plausible to conclude that, in the absence of a math diagnostic similar to early reading diagnostics, identification of students struggling in math is easier for the two grades that have begun TAKS testing in the subject (Grade 3 and Grade 4) than it is for the two that have not (Grades K – 2).

Students Served by the AMI Program

The total number of students served by the AMI program ranged from 38,661 in Kindergarten to 71,213 in Grade 3 (Table 4). Figure 4 shows the proportion of the students identified as struggling that were served at least in part through AMI funding. Similar to the numbers for ARI, the differences between the percentages of those students identified as struggling in math and the number who were served with AMI funding were minimal, ranging from 82% of Grade 1 students to 87% of Grade 4 students. This indicates that 18% of Grade 1 students and 13% of Grade 4 students who were identified as requiring accelerated instruction in math received instruction that was funded exclusively through alternative sources.

Figure 4: Percent of Students Identified who were Served by AMI Program, 2003-2004 School Year



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

As the ARI/AMI program has expanded, it has become a vital part of the funding used by LEAs for SSI-mandated accelerated instruction, and funded well over 80% of those students that were identified as needing accelerated instruction in math and reading. To further understand how the money was allocated and the strategies that were used with it, greater detail on the use of ARI/AMI funding is provided in Section III.

SECTION III: USE OF ARI AND AMI FUNDS

This section of the report provides a descriptive overview of how LEAs utilized ARI and AMI program funds for various budget categories (e.g., payroll, supplies and materials, etc.), and provides a detailed account of how program funds were distributed across various instructional grouping strategies (e.g., one on one, small group, whole class) and timing of instruction strategies (e.g., before school, regular school day, after school, summer school).

Overall Distribution of Expenses

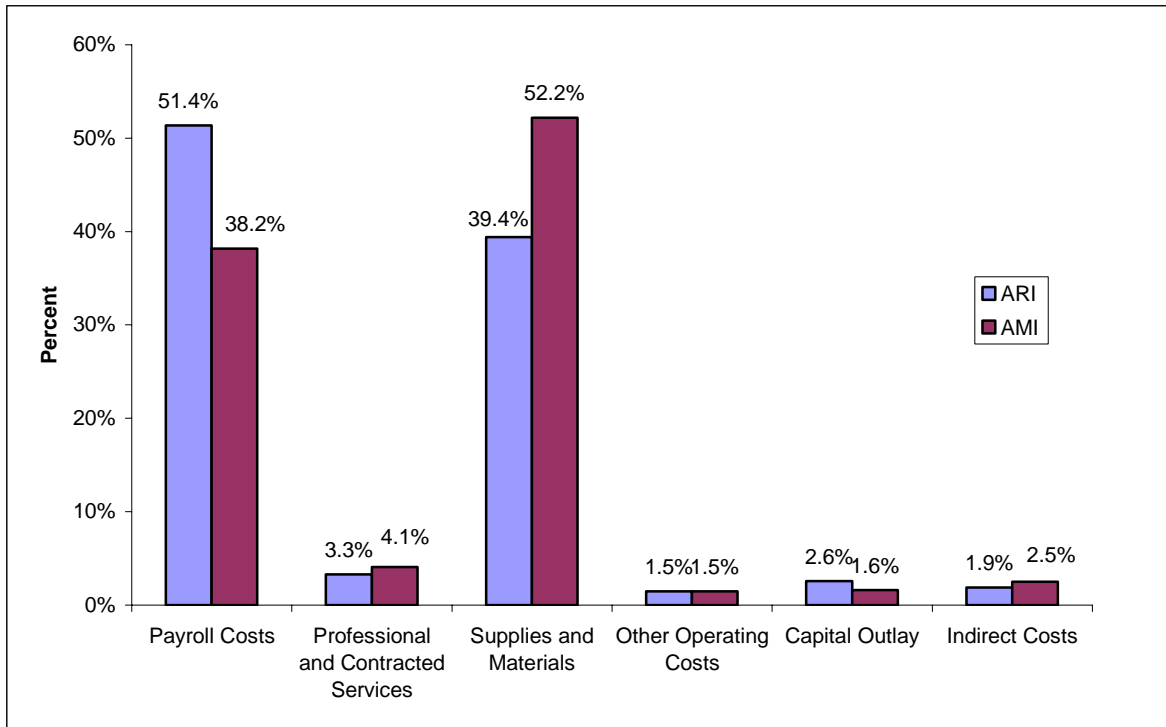
The TEA leaves discretion to each LEA to determine exactly how it will fund and structure services provided to each identified student. LEAs may coordinate funding in the manner they choose. Of the nearly \$71 million reported on 2003-2004 expenditure reports, 57% of the funding was dedicated to the reading program and 43% was spent on the AMI program. Expenditure reports submitted to the TEA indicate that the 2003-2004 ARI/AMI funds were used in two major categories, payroll and supplies/materials.

Table 5 and Figure 5 show that over 90% of funding was spent on payroll and supplies/materials; however, the distribution of funds between these two budget categories varies significantly for the reading and math programs. Over half of ARI money was spent on payroll (51%), followed by supplies and materials (39%). In contrast, although AMI funding was largely spent in these same two categories, a greater percentage was spent on supplies and materials (52%) than on payroll (38%).

Table 5: Distribution of Expenses by Budget Item Category - ARI/AMI

Budget Item Category	Program	
	Reading	Math
Payroll Costs	51.4%	38.2%
Professional and Contracted Services	3.3%	4.1%
Supplies and Materials	39.4%	52.2%
Other Operating Costs	1.5%	1.5%
Capital Outlay	2.6%	1.6%
Indirect Costs	1.9%	2.5%
TOTAL	\$40,014,257	\$30,675,896

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Figure 5: Distribution of ARI/AMI Expenses, 2003-2004 School Year

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Table 6 provides a more refined analysis of program expenditures through the use of additional budget subcategories. A large portion of the payroll costs for ARI can be attributed specifically to teacher pay. Thirty-one percent of all ARI funds were spent on teacher pay, and over a quarter (26%) of ARI funds was spent on supplemental curriculum materials. Twelve percent of all ARI expenditures went for tutor pay and 11% was spent on other supplies and materials

In contrast, only 23% of AMI funds were spent on teacher pay, while 26% of AMI funds were spent on supplemental curriculum mathematics materials, and 24% went for other supplies and materials (Table 10).

Table 6: Distribution of ARI/AMI Expenses by Detailed Budget Item, 2003-2004 School Year

Budget Category	Program	
	Reading	Math
Payroll Costs		
Teacher Pay	30.5%	23.4%
Tutor Pay	12.2%	8.0%
Substitute Teacher Pay	3.1%	2.6%
Classroom Aides Pay	3.4%	2.4%
Other Payroll Costs	2.1%	1.8%
Professional and Contract Service Costs		
Training Costs	1.0%	1.5%
Consultant Costs	1.1%	0.9%
Other Professional and Contract Service Costs	1.2%	1.6%
Supplies and Materials		
Supplemental Curriculum Costs	25.9%	25.5%
Additional Assessment Materials Costs	3.0%	2.8%
Other Supplies and Materials Costs	10.5%	23.9%
Other Operating Costs	1.5%	1.5%
Capital Outlay Costs	2.6%	1.6%
Indirect Costs	1.9%	2.5%
TOTAL	\$40,014,257	\$30,675,896

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Tables 5 and 6 show how ARI/AMI funds were distributed across budget categories, indicating that about 80% of state appropriations for the ARI/AMI program were spent on four budget categories: teacher pay, tutor pay, supplemental curriculum, and other materials.

Allocation of Funding by Districts

In addition to looking at the overall distribution of state appropriations for the ARI/AMI program, each district can also be considered individually to determine what percentage of the overall grant award was spent on each budget item. One way to examine this is to find, for each LEA, the single budget item to which the largest proportion of funds was allocated. Most of the LEAs spent over half of their ARI (86%) and AMI funding (85%) on a single budget item. Over a third of the LEAs indicated that they had spent all of their funding within a single budget category (34% for ARI and 33% for AMI).

Table 7 displays the percentages of LEAs that spent the largest proportion of their ARI and AMI funding on a particular budget item. As Table 7 shows, approximately 37% of LEAs

spent the largest proportion of their ARI allocation for teacher pay and 32% of LEAs spent the largest proportion of their AMI allocation for teacher pay. This is followed by supplemental curriculum materials, where 22% of LEAs spent the greatest percentage of their ARI funds, and a quarter of the LEAs did so for math. Seventeen percent of the LEAs used the lion's share of their ARI funds on other materials, while one in five (20%) spent the largest percentage of their AMI funds in this budget category. Ten percent of the LEAs spent the largest segment of their ARI and AMI funds on tutor pay.

Table 7: Percentage of LEAs Using the Largest Proportion of their ARI and AMI Funds on a Particular Budget Category, 2003-2004

Budget Category	ARI (N=912)	AMI (N=836)
	Percent	Percent
Payroll Costs		
Teacher Pay	37%	32%
Tutor Pay	10%	10%
Substitute Teacher Pay	2%	2%
Classroom Aide Pay	8%	6%
Other Payroll Costs	0%	0%
Supplies and Materials		
Supplemental Curriculum	22%	25%
Additional Assessment Materials	2%	2%
Other Materials	17%	20%
Computers/Equipment	3%	3%
TOTAL	100%	100%

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Instructional Grouping and Time of Instruction Strategies

In addition to budget-item breakdowns, understanding the teaching and grouping strategies used with ARI/AMI program funding provides further information as to how LEAs are utilizing their funds to provide critical services to struggling reading and mathematics students.

If districts indicated that money was spent on a given budget item, they were asked to rank the use of budget-item dollars according to instructional grouping strategy and time of

instruction strategy. Rankings ranged from zero (i.e., none of the money was spent on this strategy) to five (all of the money was spent on this strategy). The three instructional grouping strategies are: one-to-one instruction, small group instruction, and whole group instruction. Time of instruction strategies indicates when instruction was provided to struggling students (e.g., before school, during regular school day, after school, summer school).

To support the SSI requirements, the Texas Education Code and the commissioner's rules provide LEAs with flexibility to determine on an individual student basis the appropriate form, content and timing of the accelerated instruction. LEAs can use any combination of strategies, either allocating all money to only one strategy or using multiple strategies by allocating different amounts to each. Nevertheless, the SSI requires a 10:1 (or lower) student-to-teacher ratio when providing accelerated instruction to a pull-out group.

Additionally, recommendations regarding both the instructional timing and grouping strategies were provided by TEA in ARI/AMI program guidance. Program guidelines include the following:

- Accelerated instruction should occur immediately after assessment has been made (emphasizing the provision of services during the school year);
- Accelerated instruction should involve thirty to forty-five additional minutes of targeted reading or math instruction during the school day with flexible grouping of up to 4 students with one adult (emphasizing small group instruction).

Evidence that many of the strategies used by LEAs were consistent with TEA's recommendations on instructional grouping and time of day are shown in Table 8 and Table 9.

While LEAs were allowed to use whatever combination of strategies best met their needs, it is useful to determine the predominant instructional grouping and time of instruction strategies in each district to get a general understanding of the instructional approach utilized by LEAs. Each LEAs "primary" instructional grouping and time of instruction

strategies was estimated by determining the budget item in which the LEA spent the greatest percent of its money, and then subsequently looking within this budget item for the strategy to which the largest proportion of funds was allocated.

As noted earlier, it is typical for LEAs to spend the majority of their ARI and AMI funds on a single budget item, and the most common budget items were teacher pay, supplemental curriculum, other materials, and tutor pay. These four budget categories together account for 86% of LEAs when it comes to reading and 87% for math. To facilitate the subsequent discussion on strategies, the discussion will be limited to these four budget groups.

Instructional Grouping Strategies

Table 8 shows the breakdown of instructional grouping strategies, both overall and by the four main budget categories. The small group instruction strategy was most widely utilized by LEAs for ARI—81% of LEAs indicated that this was their primary method for teacher pay, 88% indicated that it was their primary grouping strategy for tutor pay, 64% cited it as the primary strategy for the use of supplemental curriculum funds and 56% noted that small group instruction was the primary strategy for the use of other materials purchased with ARI funds. As Table 8 illustrates, similar results were observed for the AMI program (i.e., small group instruction was the predominant strategy for all four budget categories included in this analysis). There is one key observable difference between the use of reading and math funds: LEAs were much more likely to use ARI tutor pay for one-to-one instruction (11%) than AMI tutor pay (5%).

For the two budget items reflecting supplies and materials (i.e., supplemental curriculum and other materials) the percentages of LEAs using small group instruction were not as high as those for the payroll budget categories. Also for these same two budget items, a larger percentage of LEAs used the lion's share of their funding for whole group instructional methods (27%-37% for ARI and 33%-38% for AMI) compared to the payroll costs budget categories.

**Table 8: Primary ARI/AMI-Funded Instructional Grouping Strategies
by Main Budget Categories, 2003-2004**

Budget Item	ARI			AMI		
	One-to-One	Small Group	Whole Group	One-to-One	Small Group	Whole Group
	Percent of LEAs			Percent of LEAs		
Payroll Costs						
Teacher Pay	6%	81%	13%	4%	81%	14%
Tutor Pay	11%	88%	1%	5%	90%	5%
Supplies and Materials						
Supplemental Curriculum	8%	64%	27%	10%	57%	33%
Other Materials	7%	56%	37%	4%	58%	38%

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Instructional Timing Strategies

Table 9 shows the breakdown of time of instruction strategies for the same four budget items presented in Table 8. Very few LEAs applied ARI and AMI funds to activities occurring before school (1% or less for all budget items).

**Table 9: Primary ARI/AMI-Funded Instructional Timing Strategies
by Main Budget Categories, 2003-2004**

Budget Item	ARI				AMI			
	Before School	During School	After School	Summer School	Before School	During School	After School	Summer School
	Percent of LEAs				Percent of LEAs			
Payroll Costs								
Teacher Pay	1%	51%	17%	30%	0%	39%	25%	36%
Tutor Pay	1%	54%	40%	5%	1%	42%	47%	10%
Supplies and Materials								
Supplemental Curriculum	0%	73%	18%	9%	0%	79%	12%	9%
Other Materials	1%	75%	14%	10%	1%	74%	15%	11%

Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Differences in the remaining three instructional timing strategies (i.e., during school, after school, and summer school) are evident when the breakdowns by the four main ARI budget items are considered. Costs of Supplies and Materials were used more for regular school day

instruction (73% and 75%) compared to Payroll Costs (51% and 54%). Similar results are observed for AMI funds. Over 70% of LEAs that spent the largest proportion of their ARI/AMI funding for Supplemental Curriculum or Other Materials used this money primarily to fund activities that occurred during the regular school day (Table 9).

Greater than half (51%) of LEAs who spent ARI money on teacher pay used it for during school instruction, 30% for summer school and 17% for after school instruction. This contrasts with how AMI teacher pay was used. For AMI, those using the greatest amounts on teacher pay used the money for after school and summer school instruction as well; 39% indicated they spent on during school, 25% on after school and 36% on summer school.

SECTION IV: STUDENT TESTING AND ARI/AMI OUTCOMES

This section of the report provides detailed information about how struggling readers and struggling math learners fared after receiving accelerated instruction through the ARI/AMI program. The analysis also includes statistical testing to determine the relationship between the use of various instructional grouping and timing of instruction strategies. Lastly, data related to the Early Reading Instrument (ERI) Report, and data on how students fared on the Texas Primary Reading Inventory (TPRI) diagnostic test is presented. It important to remember that the ERI data reported at the end of this section includes all students tested with TPRI, whether or not they received accelerated instruction through the ARI program.

Performance Outcomes for Students Served by the ARI/AMI Program

Reading

Table 10 shows how students who were identified as struggling in reading and/or math at the beginning of the year fared in these subject areas by the end of the school year. Overall for ARI students in Grades K-4, 70% who were provided accelerated instruction with ARI funds were reading on grade level by the end of the year. There was variation by grade level: Kindergarten, 67%; Grade 1, 64%; Grade 2, 67%; Grade 3, 81%; and Grade 4, 72%. The fact that a larger proportion of ARI students in Grade 3 improved their reading skills to be on grade level by the end of the school year likely indicates that greater emphasis was placed on students in this grade due to grade promotion requirements associated with the Grade 3 TAKS reading test.

Mathematics

A substantially larger proportion of AMI students provided accelerated instruction in math were on level by the end of the year than ARI students, who received accelerated reading instruction. For all AMI students in Grades K-4, 84% who were provided with accelerated math instruction through the AMI program were on grade level by the end of the school year. Seventy-nine percent of first graders served by the AMI program were on grade level in mathematics by the end of the year. Similar to reading, Grade 3 students fared the

best—88% of students in Grade 3 receiving AMI-funded accelerated instruction were on level by the end of the year (Table 10).

Table 10: Percent of ARI/AMI Students on Grade Level at the End of the Year, 2003-2004

	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	All Grades
Number of Students Served by ARI	69,456	91,739	83,632	86,605	57,187	388,619
Number of ARI Students Reading on Grade Level at the End of Year	46,747	58,859	56,180	69,819	40,921	272,526
Percent of ARI Students Served Reading on Grade Level by End of Year	67.3%	64.2%	67.2%	80.6%	71.6%	70.1%
Number of Students Served by AMI	38,661	47,632	50,393	71,213	65,911	273,810
Number of AMI Students on Grade Level in Math by End of Year	33,079	37,841	40,763	62,481	56,048	230,212
Percent of AMI Students Served on Grade Level in Math by End of Year	85.6%	79.4%	80.9%	87.7%	85.0%	84.1%

Source: Early Reading Instrument Report, Texas Education Agency, 2003-2004.

Outcome Differences by Strategies

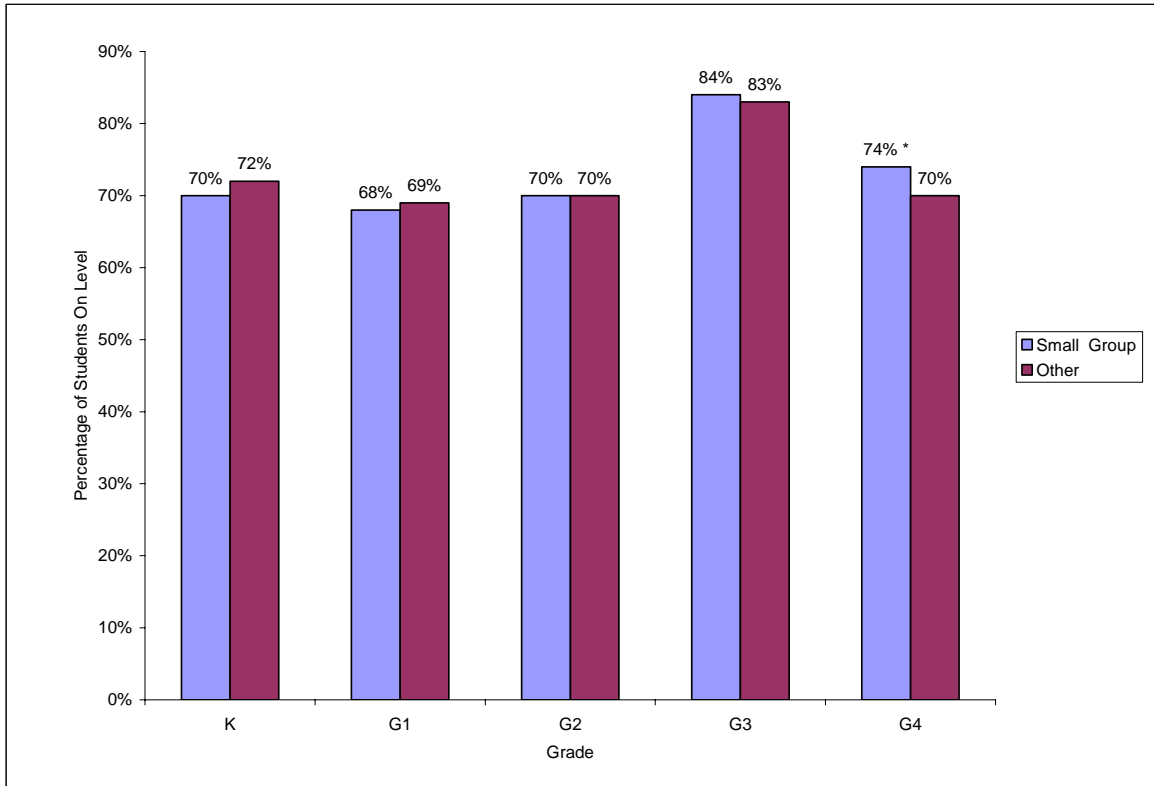
Instructional Grouping Strategies

To take the analysis a step further, a test for the relationship between proportions of students on level in reading and math and the primary instructional grouping and timing strategies used by LEAs was conducted to see if any particular strategy is more likely to yield better results than other strategies. Previous research indicates that students learn best in small groups and when taught during the school day. The results of this analysis are illustrated in Figures 6 through 9.

Figure 6 shows the proportion of ARI students on level in reading for those districts that used small group methods and for those districts that mostly used another method such as one-to-one and whole group methods. The differences in the proportion on level are small, if there are any differences at all. For example, Grade 2 had the same proportions of students on level regardless of the grouping method used. The biggest difference is in

Grade 4, where 74% of ARI students were reading on grade level at the end of the year when small group instruction was the primary method, compared to 70% for those LEAs utilizing other instructional grouping strategies (i.e., one-on-one or whole class).³

Figure 6: Proportion of ARI Students On Level in Reading at End of Year by Grade and Grouping Strategy, 2003-2004



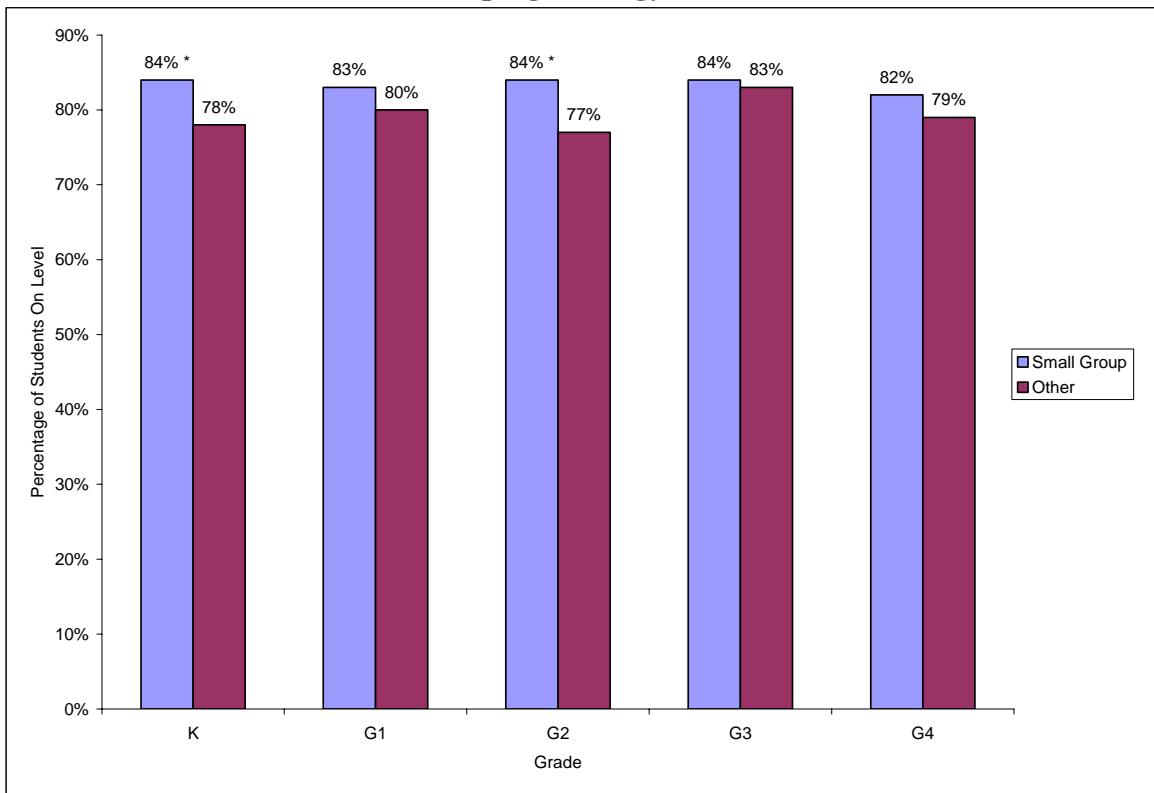
Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Note: * $p < .10$

Figure 7 illustrates the proportion of AMI students on level in math at the end of the year by the instructional grouping strategy used by the LEA. The differences in the proportions on level by grouping strategy were largest for Kindergarten (84% for small group and 78% for other grouping strategies) and Grade 2 (84% for small group and 77% for other grouping strategies). Both of these findings are statistically significant (at the .05 level)—showing a higher proportion of students on grade level in math at the end of the year among those LEAs who used small groups as their primary instructional grouping strategy.

³ This difference was significant at the $p < .10$ level.

Figure 7: Proportion of AMI Students On Level in Math at End of Year by Grade and Grouping Strategy, 2003-2004

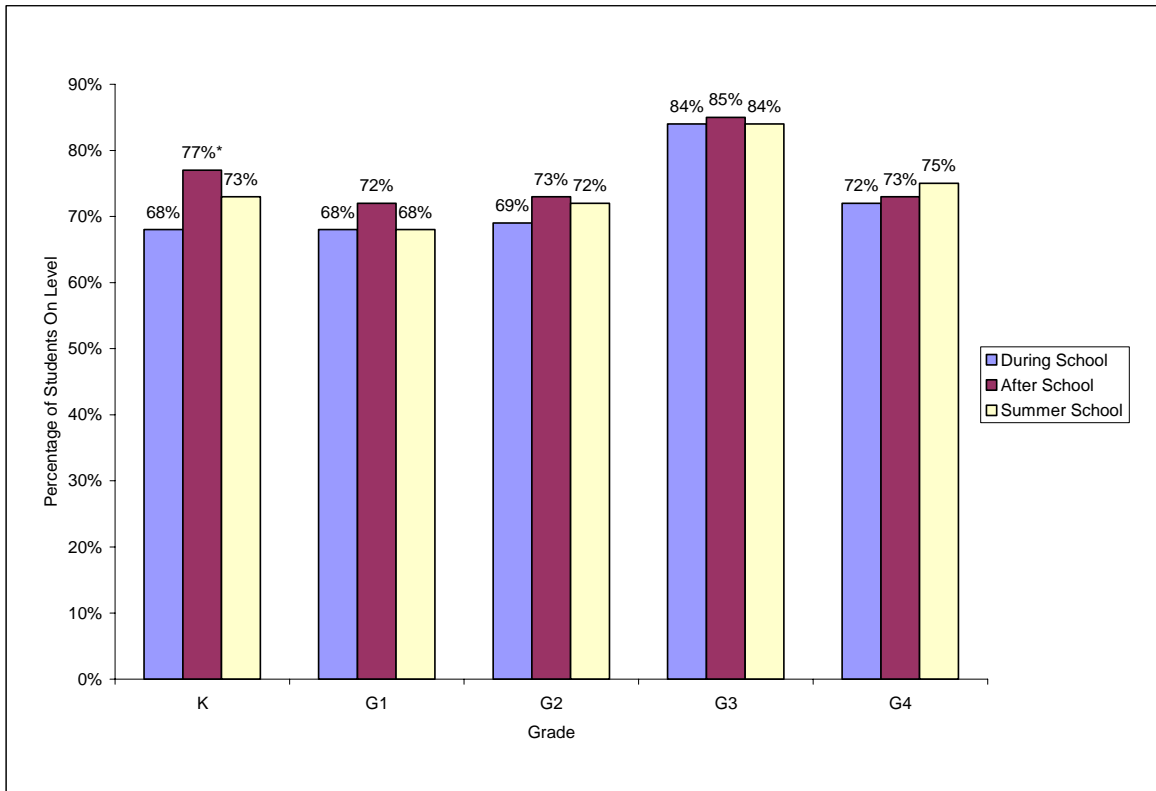


Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Note: * $p < .05$

Figure 8 illustrates that no significant relationship was found between timing of ARI instruction (particularly regular school instruction) and student achievement outcomes (i.e., the proportion of students reading on grade level by the end of the year). While these findings appear to contradict other research that finds that instruction during school is most effective, they should be interpreted with caution. The aggregate nature of the data and the inability to link specific outcomes to specific strategies at the student-level complicates interpretation.

Figure 8: Proportion of ARI Students On Level in Reading at End of Year by Grade and Time of Instruction Strategy, 2003-2004

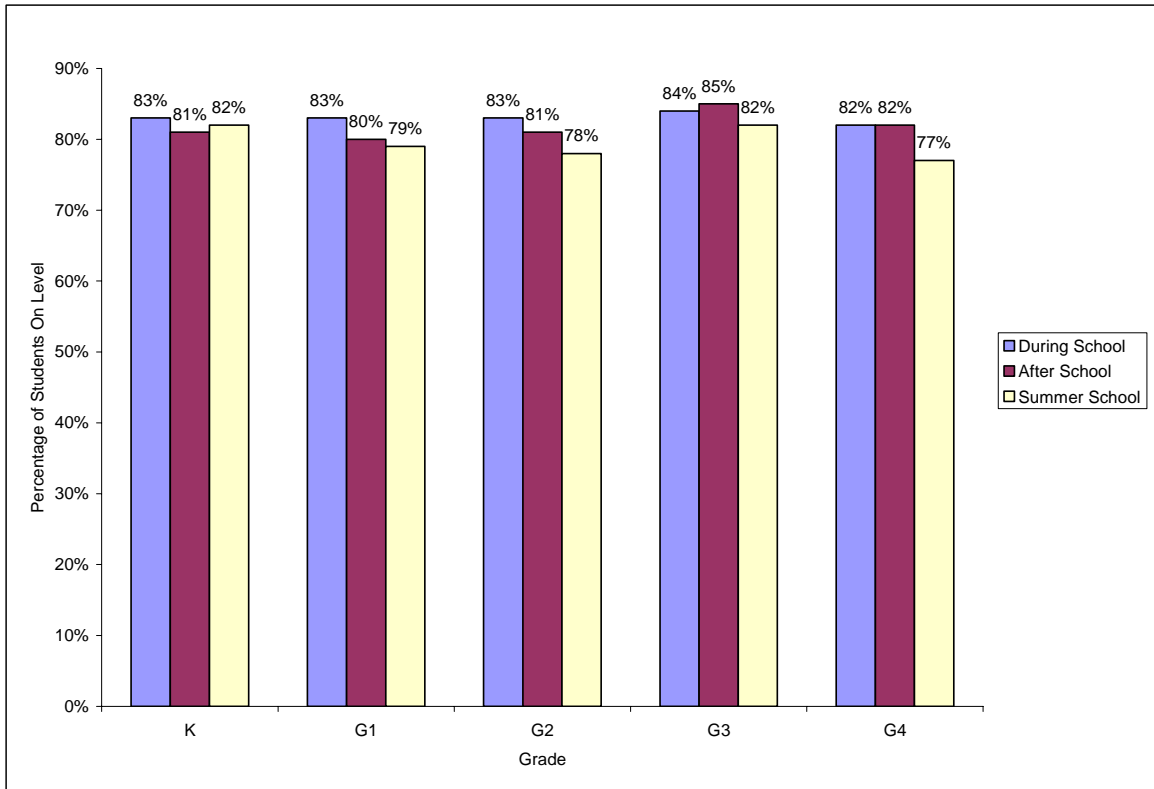


Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Note: * $p < .05$

In contrast to Figure 8 for reading, the proportion of Kindergarten through Grade 2 students on level in math is highest among those who received instruction during school (Figure 9). None of these figures however, was statistically significant.

Figure 9: Proportion of AMI Students On Level in Math at End of Year by Grade and Time of Instruction Strategy, 2003-2004



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

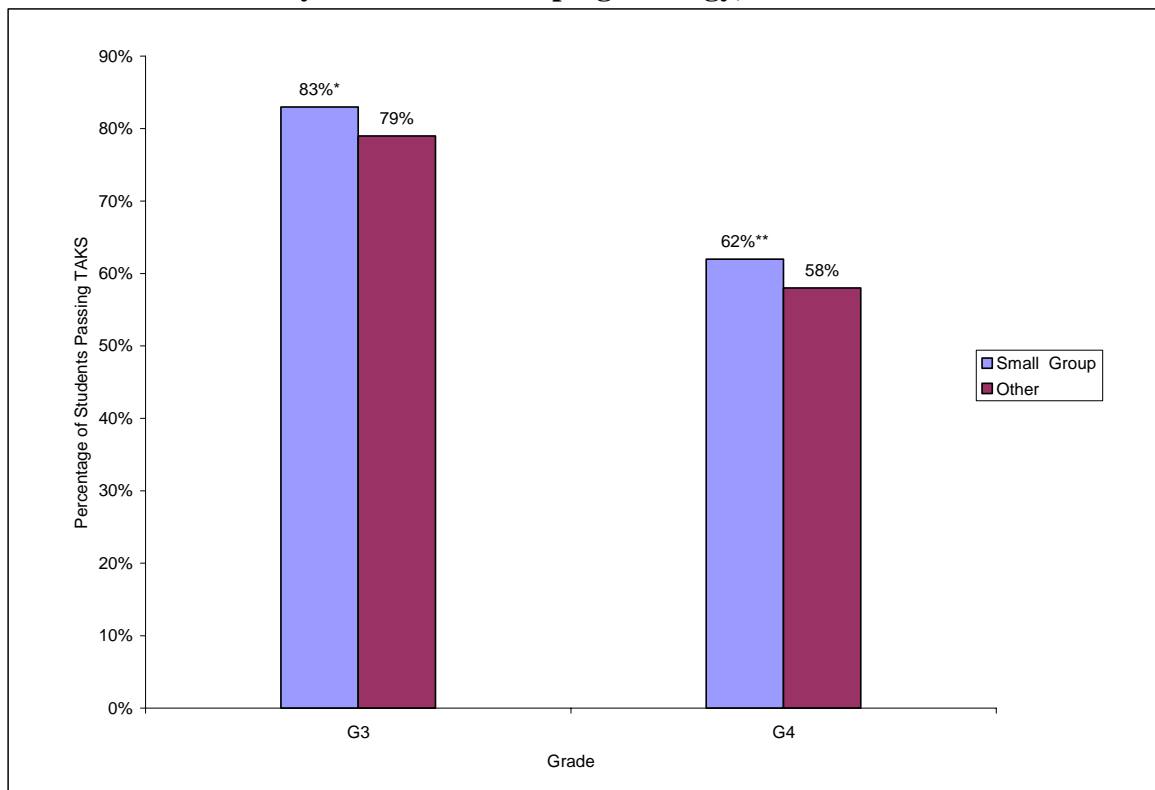
Overall, with only a few exceptions, very few statistically significant differences between grouping strategies and proportion of students on level in reading or math, or instructional timing strategies and proportion of student on level could be found.

LEAs also provided information on the number of ARI and AMI Grade 3 and Grade 4 students who met the state passing standard on the reading and math portions of the TAKS. Similar to the analysis of the proportions of students on level by subject area, tests for the relationship between the percentage of students passing the TAKS and the primary grouping and timing of instruction strategies used by the LEAs are presented in Figures 10 to 13.⁴

⁴ The proportions of students passing the 2004 TAKS tests in Grade 3 and Grade 4 are lower than those who were considered on level at the end of the year. The reason for this may be due to the more rigorous passing standard implemented for 2004 TAKS testing.

Figure 10 shows that LEAs indicating that their primary instructional grouping strategy for reading was based on small groups had a higher proportion of children passing the TAKS compared to those who used other methods of instruction. For Grade 3, the proportion of students passing the reading section of the TAKS attending schools using small group instructional methods was 83% compared to 79% of third graders from LEAs who tended to use strategies such as one-to-one and whole group more commonly.

Figure 10: Proportion of ARI Students who Met the Passing Standard in TAKS by Grade and Grouping Strategy, 2003-2004



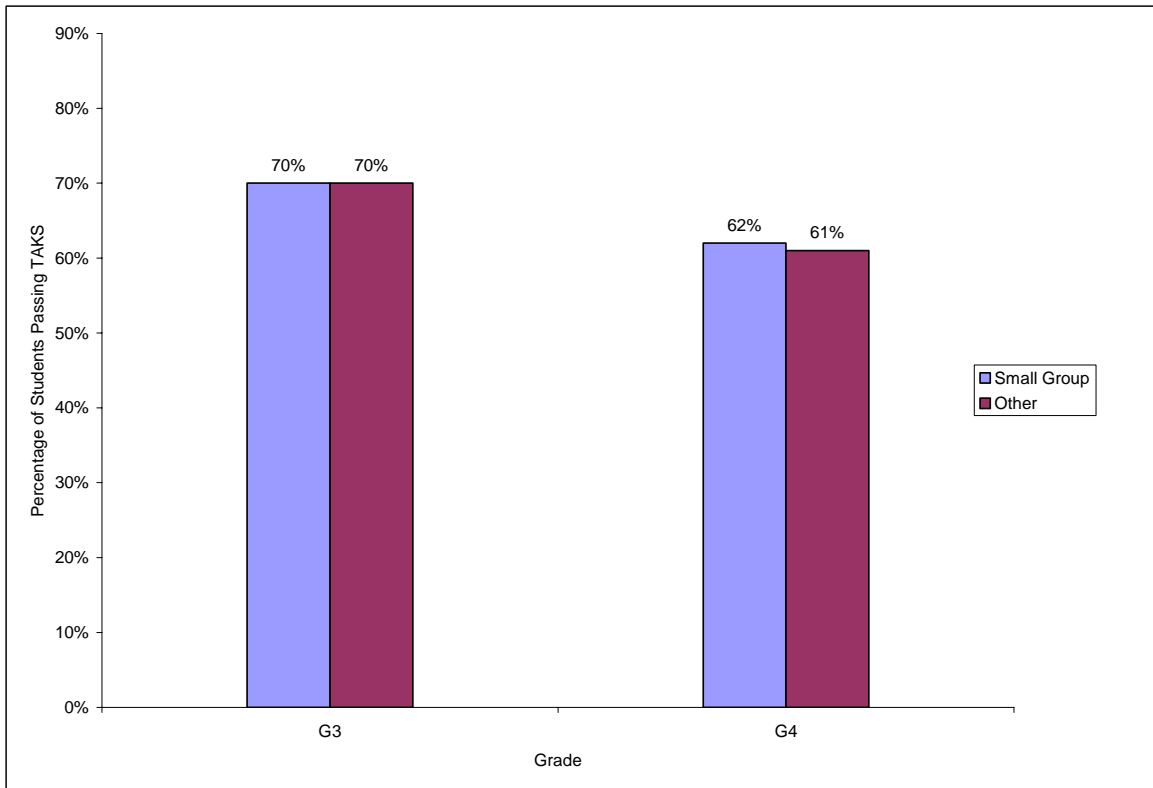
Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Note: * $p < .05$, ** $p < .10$

Though the test passing rates were lower for Grade 4, the findings are consistent with Grade 3—LEAs using small group instruction as their primary grouping strategy for ARI fared somewhat better than LEAs utilizing one-on-one or whole class grouping methods. Students in Grade 4 from LEAs that used mostly small group methods also had a higher proportion of students passing the reading portion of the TAKS test (62%) compared to students from LEAs who used on-to-one and whole group methods (58%). For both grades, these relationships were statistically significant.

As Figure 11 illustrates, instructional grouping strategies did not have a statistically significant impact on student achievement results on the math portion of the Grade 3 and Grade 4 TAKS. The same general proportion of 3rd and 4th graders passed the math portion of TAKS regardless of whether the LEA they attended used small group instruction or another grouping strategy.

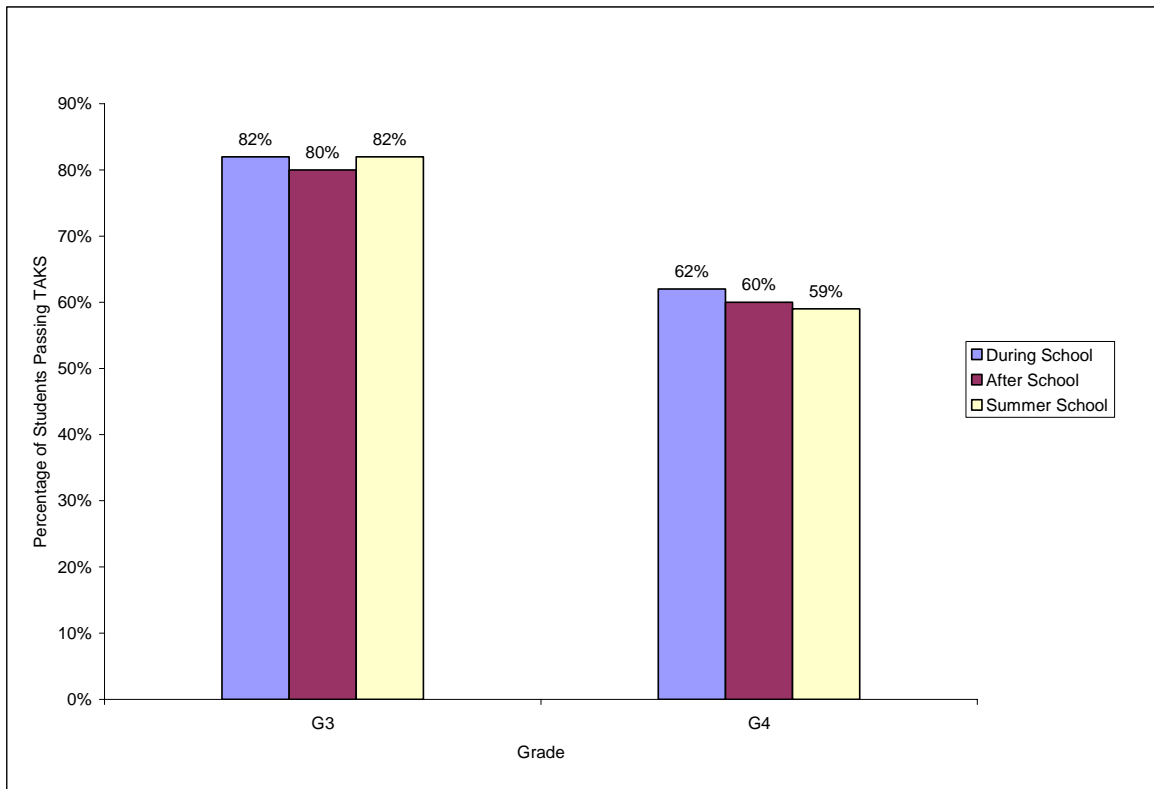
Figure 11: Proportion of AMI Students Who Met the Passing Standard in TAKS by Grade and Grouping Strategy, 2003-2004



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

No statistically significant differences in the propensity of ARI students to pass the reading portion of the TAKS were observed between LEAs that used different instructional timing strategies (Figure 12). For Grade 3, the proportions for during school instruction and summer school instruction were the same (82% for each) and the proportion for those receiving after school instruction was slightly lower (80%). For Grade 4, students from LEAs using during school instruction fared slightly better (62%) than those LEAs who provided mostly after school and summer school instruction (60% and 59%, respectively). None of these figures however, is statistically significant.

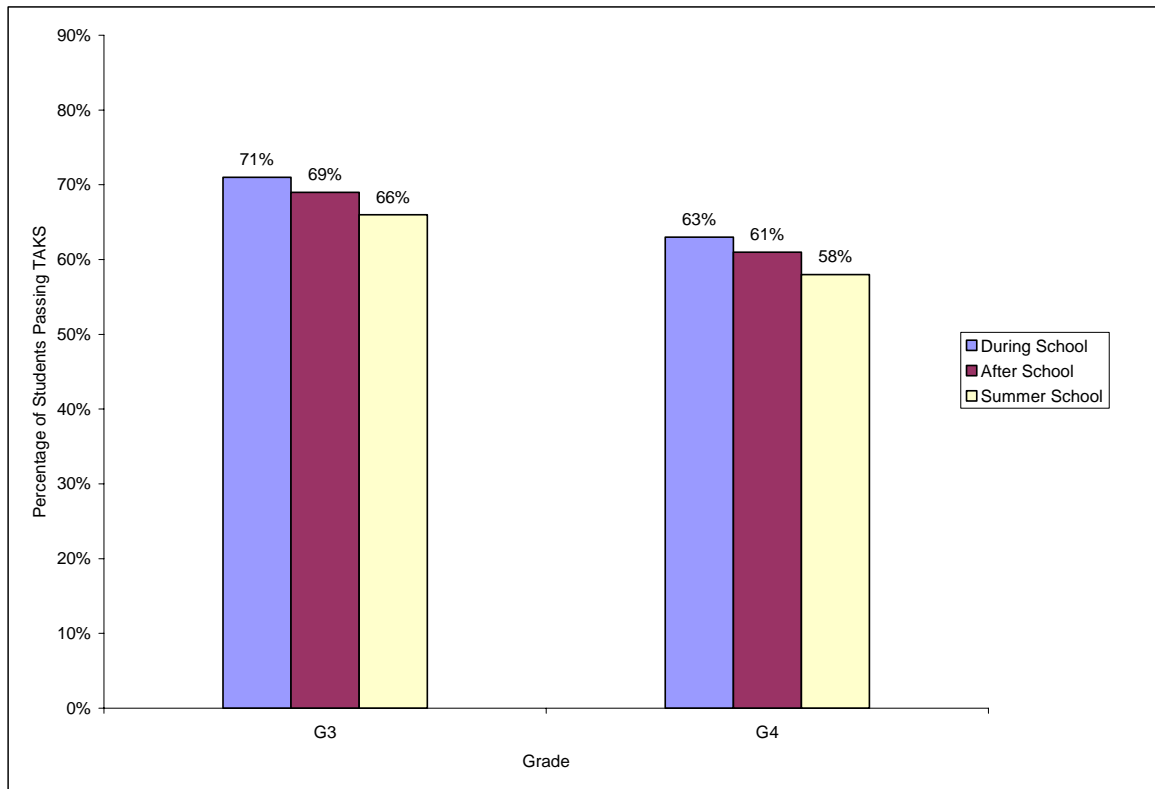
Figure 12: Proportion of ARI Students who Met the Passing Standard in TAKS by Grade and Time of Instruction Strategy, 2003-2004



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

As Figure 13 shows, 3rd grade students from LEAs providing mostly during school instruction fared slightly better than those who provided after school or summer school instruction (71%, 69%, and 66% respectively). Although the proportions passing in Grade 4 were lower than those for Grade 3, the pattern regarding time of instruction strategies remained the same, with students from LEAs providing more during school instruction doing better than those who were from LEAs providing mostly after school or summer school instruction (63%, 61%, and 58% respectively). Again, none of these figures were statistically significant.

Figure 13: Proportion of AMI Students who Met the Passing Standard in TAKS by Grade and Time of Instruction Strategy, 2003-2004



Source: ARI/AMI Final Evaluation Reports, Texas Education Agency, 2003-2004.

Student Testing: Texas Primary Reading Inventory

Data reported in this subsection of the report refer to all students tested in reading, not just those served through the ARI/AMI program. While students may be identified as needing accelerated instruction through any of the early reading instruments on the Commissioner's approved list, the Texas Primary Reading Inventory (TPRI) and its Spanish equivalent, the Tejas LEE, are by far the most commonly used assessment instruments. As part of the SSI, the TEA provides TPRI materials to all LEAs that request it free of charge. This early reading instrument is a diagnostic test used to identify children who are struggling with important reading concepts. The test is administered to Kindergarten students at the middle and end of the school year, and to students in Grades 1 and 2 at the beginning and end of the school year. Greater than 80% of students were tested with either of these two instruments.

As Table 11 reflects, of the students being tested with a diagnostic instrument, over 60% of Kindergarten and Grade 1 students were tested using TPRI and more than 70% of students in Grade 2 were tested with TPRI (Table 10). The Tejas LEE diagnostic test was administered to approximately 20% of Kindergarten and Grade 1 students tested, and 13% of the 2nd graders tested.

Data of greater detail was collected only for the TPRI because differences in the specific diagnostic methods and measures used by each of the early reading instruments on the Commissioner's list make it unfeasible to collect and analyze information for all of them. These data are presented below.

**Table 11: Distribution of Early Instrument Testing
Used During the 2003-2004 School Year**

Instrument	K-Mid	K-End	G1-Beg	G1-End	G2-Beg	G2-End
Texas Primary Reading Inventory (TPRI)	65.1%	64.4%	65.8%	61.2%	71.6%	75.8%
Tejas LEE Revised 2004-2006	19.3%	19.8%	17.5%	19.6%	13.2%	11.1%
Other	15.6%	15.8%	16.7%	19.3%	15.2%	13.0%
TOTAL	100%	100%	100%	100%	99.99%	99.9%
Total Number of Students Tested	228,321	226,781	240,088	214,514	254,595	302,325

Source: Early Reading Instrument Report, Texas Education Agency, 2003-2004.

Note: Totals do not sum to 100% due to rounding

The first part of the TPRI is a screening process designed to assess quickly those children who have a good command of essential reading concepts pertinent to their grade level. These children are considered to be “Developed on Screen” (DOS). Children who are found to be “Still Developing” are inventoried at greater depth in those areas where they were found to be struggling. These children are identified as requiring accelerated instruction.

Table 12 shows the change in the number and percent of children developed on screen from the first time the TPRI test was taken to the second time the test was taken. An increase of 10 percentage points in the number of Kindergarten children “Developed on Screen” was observed—75% DOS at the mid-year test compared to 85% DOS at the end of the year test. The change in the percentage of Grade 1 students tested who were “Developed on Screen” was 18 percentage points, moving from 61% of those tested at the beginning of the year to 79% of those tested at the end of the year.

Interestingly, the smaller percentage of Kindergarten students who were “Still Developing” (i.e. requiring accelerated instruction) compared to the percentage of Grade 1 students “Still Developing” is consistent with the pattern found in Figure 1 (the percentage of students enrolled who were identified as requiring instruction) even though not all students enrolled were tested with an early reading instrument, and although the data depicted in Table 12 is based on the subset of students testing with the TPRI.

Table 12: Students Developed on Screen, TPRI, 2003-2004

	K-Mid	K-End	G1-Beg	G1-End
Number of Students Developed on Screen	167,260	190,309	143,102	185,884
Number of Students Testing	224,582	225,150	234,223	234,882
Percent of Students Tested that were Developed on Screen	74.5%	84.5%	61.1%	79.1%
Percent of Students Tested that were Still Developing	25.8%	15.5%	33.1%	20.9%

Source: Early Reading Instrument Report, Texas Education Agency, 2003-2004.

Table 12 is a useful aggregate perspective of all Texas schoolchildren being tested with this instrument. Table 13 provides a slightly more detailed view; it shows how many LEAs have increased, decreased, or maintained the proportion of children “Developed on Screen” within their LEA, again, from the time the children were first tested to the time they were tested at the end of the year. It indicates that most LEAs have been successful in increasing the number of children “Developed on Screen”. Over three-quarters (78%) of the LEAs increased the proportion of students that were “Developed on Screen” by the end of the year. For Grade 1, 80% of LEAs showed improvement over the course of the year by increasing the number of children “Developed on Screen”. Eleven percent of LEAs had declines in the number “Developed on Screen” in Kindergarten and 13% had declines in Grade 1.

Table 13: LEAs Realizing Changes in Proportion of Students Developed on Screen, 2003-2004

	Grade	
	K	1
LEA Increased the Proportion of Students DOS	77.8%	80.2%
LEA Kept Same Proportion of Students DOS	11.5%	7.2%
LEA Decreased the Proportion of Students DOS	10.6%	12.7%
Number of Districts Reporting	1053	1048

Source: Early Reading Instrument Report, Texas Education Agency, 2003-2004.

Looking more closely at improvement, Table 14 depicts the percentage point change in the proportion of LEAs that improved. Of the 820 LEAs demonstrating an improvement by the end of the year in the number of Kindergarten children “Developed on Screen”, 37% increased by 1 to 9 points, a little over a quarter (26%) increased by 10 to 29 percentage points, and 37% improved by 20 percentage points or more (Table 15).

Improvements in the proportion of Grade 1 children “Developed on Screen” were more marked than those of Kindergarten children. This may be partly due to the fact that the Grade 1 change has occurred over the course of the entire school year, whereas the Kindergarten change has occurred from the middle of the school year to the end. Almost two-thirds (64%) of the students were enrolled in LEAs which increased in the proportion of children who were “Developed on Screen” by 20 percentage points or more.

Table 14: Distribution of Percentage Point Improvement in the Proportion of Students Developed on Screen, 2003-2004

Improved by:	Grade	
	K	1
1 to 9 percentage points	37.3%	13.5%
10 to 19 percentage points	26.1%	22.7%
20 to 29 percentage points	17.1%	21.4%
30 or more percentage points	19.5%	42.4%
Total	100.0% (820)	100.0% (840)

Source: Early Reading Instrument Report, Texas Education Agency, 2003-2004.

SECTION V: CONCLUSION

Accelerated instruction is an essential component to assisting students to prepare, not only for the SSI grade advancement requirements, but also for academic success in general. This report outlines the 2003-2004 ARI/AMI program and has shown it to be a key element of funding the provision of accelerated instruction to Texas children struggling in reading and math. Program funding has been used to fund well over 80% of Texas children identified as at-risk.

The majority of all 2003-2004 ARI/AMI funds were used for payroll costs and for supplies and materials. Over 90% of the money went to these two categories, with reading funds used more to fund payroll costs (51%) and math funds spent more on supplies and materials (52%). More specifically, payroll funds were largely used to fund teacher pay; this was the case for both reading and math.

The strategies for instructional grouping (e.g., one-to-one, small group, whole class) and time of instruction (e.g., before school, during school, after school summer school) indicate consistency with recommendations provided by TEA regarding the most effective instructional strategies. That is, the small group method was by far the most commonly utilized strategy.

Both the SSI and TEA recommendations call for immediate intervention upon identifying a child as struggling in math or reading. Instruction during the school day is also a recommendation offered by TEA. Analysis of LEA expenditure reports reveals that, in fact, the majority of ARI funds were spent for instruction provided during the day, with smaller percentages of this money going to summer school or after school instruction.

When payroll costs are considered, time of instruction varied by type of employee and type of funding. For example, LEAs who indicated that they spent the largest proportion of their ARI funds on teacher and tutor pay allocated these funds primarily to activities occurring both during the day and during summer school instruction. The second most frequent use however, varied between the two with tutors pay applied more to after school

instruction and teacher pay to summer school instruction. For AMI, the distribution was more evenly spread across the three time categories with regard to teacher pay.

TPRI testing outcomes indicate a general improvement in children who tested as “Developed on Screen” by the end of the year, with more marked improvements occurring among Grade 1 students. With regard to students provided accelerated instruction with ARI/AMI funds, grantee reports show that large percentages of these students, who were identified as struggling early in the year, were considered to be on grade level by the end of the school year. Across all grades served by the ARI/AMI program (i.e., K-4), 70% of students who were provided accelerated instruction with ARI funds were on grade level in reading by the end of the year. An even higher percentage (84%) of the students provided with accelerated instruction through the AMI program were on grade level in math by the end of the school year.

Tests for differences between the proportion on grade level by the various grouping categories and time of instruction categories show significant differences for only a few grades. ARI students in Grade 4 from LEAs that used predominantly small group strategies had a higher proportion on level than those from LEAs that used other grouping methods (74% and 70%, respectively). AMI students in Kindergarten and Grade 2 from LEAs using mainly small group instructional methods also had higher proportions of students on grade level at the end of the school year than those from LEAs using other instructional grouping strategies. For time of day strategies, the only significant finding is for ARI students in Kindergarten who received after school instruction.

Tests for associations between the primary grouping and time of instruction strategies used and the proportions of Grade 3 and Grade 4 ARI/AMI students passing the TAKS reading and math portions only showed significant differences for grouping strategies associated with reading. LEAs utilizing primarily small instructional groups had slightly higher proportions of students passing the reading portion of TAKS than those that used other strategies (i.e., whole class or one-to-one instruction). A more detailed analysis of the association of certain strategies with better outcomes would require data collected at a greater level of detail than was collected for this report.

In conclusion, LEAs in Texas are using ARI/AMI program funding to promote accelerated instruction that is consistent with methods that have been proven to work. The ARI/AMI program clearly appears to be providing Texas schoolchildren with the instruction necessary to improve performance in reading and math—thus yielding positive outcomes.