

Accelerated Reading Instruction/ Accelerated Math Instruction (ARI/AMI) Program: Updated Performance Review

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Student Cohort Analysis, 2004-2006

Related to the Accelerated Reading Instruction/ Accelerated Math Instruction (ARI/AMI) Program

Overview

- The ARI/AMI Program is available to nearly every local education agency (LEA) in Texas—1,112 LEAs received ARI/AMI funding (\$144.1 million) in 2005-2006, serving 4,159 campuses across the state.
- In 2005-2006, the ARI/AMI program served Grades K-6, and aggregate program data from grantees indicated that 66% of students served by the program were “on-grade level” in reading and 69% were “on-grade level” in math at the end of the school year.
- Because data is reported to TEA aggregated at the district level, it is not possible to determine for certain if a particular student received services through the ARI/AMI Program. Therefore, in order to better understand the impact of the ARI/AMI program (and other potential mixed funding sources) on students most in need of accelerated or intensive reading or math interventions, a student cohort was created to represent likely candidates for ARI and AMI funded services.

Creation of Student Cohort

- The students included in the cohort were selected based on Spring 2004 Texas Assessment of Knowledge and Skills (TAKS) results, and subsequent TAKS performance as analyzed for the Spring 2005 and Spring 2006 TAKS exams (first administration only). The first administration of the TAKS was selected because it gauges student performance in content area proficiency at a single point in time, and failure at the first administration is a strong indicator of weakness in the core content area (i.e., reading or math).
- Separate student cohorts were created for students failing the first administration of the Grade 3 TAKS Reading exam in Spring 2004 (i.e., likely candidates for ARI services), and students failing the first administration of the Grade 3 TAKS Math exam in Spring 2004 (i.e., likely candidates for AMI services).
- In order for a student to be included in the cohort, the following conditions must have been met:
 - The student failed to meet the state standard on the first administration of the applicable 2004 Grade 3 TAKS exam; and
 - The student had valid TAKS records for the 2004-2006 period.
- It is assumed that the students who met the criteria described above were likely candidates for the ARI and AMI programs for the 2004-2005 and 2005-2006 school years.
- A total of 19,964 students were identified for the reading cohort (42% of these students were also in the math cohort); and 23,831 students were created for the math cohort (35% of these students were also in the reading cohort).
- It is important to note that there is an overrepresentation of Hispanic and limited English proficient (LEP) students in these cohorts who failed the first administration of the Grade 3 TAKS in Spring 2004, when compared to the general Texas Grade 3 student population. Almost two-thirds of the students in the reading cohort (65%) and 61% of the students in the math cohort are Hispanic vs. 46% Hispanic in Grade 3 as a whole. In addition, 43% of the students in the reading cohort and 36% of the students in the math cohort are classified as LEP versus 23% of students in Grade 3 as a whole.
- It is estimated that the students identified for the reading cohort accounted for approximately 30% of the Grade 4 students served through ARI in 2004-2005, and the students in the math cohort accounted for approximately 32% of the students served through the AMI program in 2004-2005.

Reading Summary

Key findings related to this analysis of students who failed the first administration of the Grade 3 TAKS Reading exam in Spring 2004 (N=19,964) are as follows:

The majority of students who failed the first administration of the Grade 3 TAKS Reading exam in Spring 2004 were subsequently promoted to Grade 4 for the 2004-2005 school year and to Grade 5 for the 2005-2006 school year.

- 72% were not retained in Grades 3 or 4 over the 2004-2006 period.
- 22% were retained in Grade 3 for the 2004-2005 school year.
- 6% of the students in the reading cohort were promoted to Grade 4 for the 2004-2005 school year, but were retained in Grade 4 for the 2005-2006 school year.

For students who were *not* retained in either Grades 3 or 4, the passing rates on the first administration of the Spring 2005 (Grade 4) and Spring 2006 (Grade 5) TAKS Reading exams were poor.

- Less than one-third of reading cohort students who were not retained in either Grades 3 or 4 passed the first administration of the Grade 4 (25%) or Grade 5 (29%) TAKS Reading exams. Further, the majority of these students (59%) failed *both* the Grade 4 and Grade 5 TAKS Reading exams on the first administration.

Students who failed the first administration of the Grade 3 TAKS Reading exam in Spring 2004 and *were* retained in grade for the 2004-2005 school year had generally high rates of passage on the Grade 3 TAKS Reading exam in Spring 2005.

- Overall, the majority (70%) of these retained students passed the Grade 3 TAKS Reading exam on the first administration in Spring 2005.
- This finding held for all student groups under review (e.g., economically disadvantaged, African American, Hispanic, LEP, special education, etc.).

Retaining students who have not mastered subject area content in Grade 3 may lead to higher rates of success on subsequent first administrations of TAKS Reading exams in Grade 4 and beyond for these students.

- Among students who repeated Grade 3 in 2004-2005, 45% went on to pass the first administration of the Grade 4 TAKS Reading exam in 2006. This compares favorably to just 25% of the reading cohort students who did not repeat third grade and passed the first administration of the Grade 4 TAKS Reading exam in 2005.

Among the students in this analysis (i.e., those who failed the first administration of the Grade 3 TAKS Reading in Spring 2004), African American and Hispanic students failed the first administration of TAKS Reading at higher rates than White students for all years and in all grades. Similar results were observed for economically disadvantaged and LEP students.

- Disparity in passing rates was greatest on the first administration of the Grade 5 TAKS Reading exam (for students who were not retained in grade during the period of analysis). One quarter (25%) of African American students and 27% of Hispanic students passed the first administration of the Grade 5 TAKS Reading exam in Spring 2006, compared to 46% of White students.
- Similarly, 26% of economically disadvantaged students passed the first administration of the TAKS Reading exam versus 42% of students not classified as economically disadvantaged.

These findings point to the need for more targeted and intensive instruction for these students most at risk of failure on the TAKS Reading exam in order to better prepare them for success at the middle school and high school levels. Further, the data suggest that there may be benefits associated with retaining a student in Grade 3 who has not mastered the subject area content.

Mathematics Summary

Key findings related to this analysis of students who failed the first administration of the Grade 3 TAKS Math exam in Spring 2004 (N=23,831) are as follows:

The majority of students who failed to meet the state standard on the first administration of the Grade 3 TAKS Math exam in Spring 2004 were subsequently promoted to Grade 4 for the 2004-2005 school year and to Grade 5 for the 2005-2006 school year.

- 78% of math cohort students were not retained in grade over the 2004-2006 period.
- 15% of math cohort students who failed the Grade 3 TAKS Math exam were retained in Grade 3 for the 2004-2005 school year.
- 7% of students were promoted to Grade 4 for the 2004-2005 school year, and were retained in Grade 4 for the 2005-2006 school year.

Similar to the reading results, students who failed the first administration of the Grade 3 TAKS Math exam in Spring 2004 and *were* retained in grade for the 2004-2005 school year had relatively high rates of passage on the Grade 3 TAKS Mathematics exam in Spring 2005.

- A significant proportion (58%) of math cohort students retained in Grade 3 for the 2004-2005 school year were successful in passing the first administration of the Grade 3 TAKS Math exam in Spring 2005.
- This finding held for each of the student groups under review (e.g., economically disadvantaged, African American, Hispanic, LEP, special education, etc.).

For students who were *not* retained in either Grades 3 or 4 during the period of analysis (2004-2006), passing rates on the first administration of the Spring 2005 (Grade 4) and Spring 2006 (Grade 5) TAKS Math exams were very low.

- Less than one-third of math cohort students who were not retained in either Grades 3 or 4 passed the first administration of the Grade 4 (27%) or Grade 5 (30%) TAKS Math exams.
- Similar to the pattern found for struggling readers, the majority of these non-retained math cohort students (57%) failed to meet the state standard on *both* the Grade 4 and Grade 5 TAKS Math exam (first administration).

Consistent with reading results, there appears to be some benefit to retaining students in Grade 3 who have not mastered the math content for that grade level, as the rate of success on subsequent first administrations of TAKS Math exams in Grade 4 for these students (retained in Grade 3) was higher than their counterparts who were promoted to Grade 4 for the 2004-2005 school year.

- Almost half (49%) of the math cohort students who repeated Grade 3 in 2004-2005 went on to pass the first administration of the Grade 4 TAKS Math exam in Spring 2006, compared to only 27% of the cohort students who did not repeat Grade 3 in 2004-2005.

Disparity in TAKS Math passing rates was observed across most student groups for the math student cohort. These results are consistent with those found for the reading cohort and tend to mirror statewide disaggregated TAKS passing rates.

- For non-retained math cohort students, 22% of African American students and 27% of Hispanic students passed the first administration of the Grade 4 TAKS Math exam in Spring 2005, compared to 37% of White students. Similar results were observed for the Grade 5 TAKS Math results in Spring 2006.
- Similarly, 25% of non-retained economically disadvantaged students passed the first administration of the Grade 4 TAKS Math exam in Spring 2005, compared to 34% of non-economically disadvantaged students; in the following year, 28% of non-retained economically disadvantaged students passed the first administration of the Grade 5 TAKS Math exam in Spring 2006, compared to 39% of non-economically disadvantaged students.

Link to full text:

http://www.tea.state.tx.us/opge/progeval/ReadingMathScience/ARIAMI_longitudinal_04-07.pdf