National Training Network

Methodology Research

Charlotte Mecklenburg Schools
North Carolina
2003–2005

Algebraic Thinking Results for Charlotte Mecklenburg Schools 2003-2005

Implementation: Charlotte Mecklenburg Schools began working with National Training Network to implement the Algebraic Thinking curriculum in the summer of 2003.

Training: For the 2003–2004 school year, training in Foundations and Part I for A+ Middle Schools and Part II for A+ High Schools was delivered in a five day workshop prior to the beginning of the school year; in 2004–2005, Training in Foundations and Part I for all Middle Schools, Part II for A+ Middle Schools and Part II for High Schools was delivered in a five day workshop prior to the beginning of the school year; for the 2005–2006 school year, training in Foundation, Part I and Part II for all Middle Schools and all Middle Schools was delivered in a five day workshop prior to the beginning of the school year; for the 2006–2007 school year, training in Foundations, Part I and Part II was delivered in a modified three day training session prior to the beginning of the school year and it was offered again throughout the school year, as well; for the 2007–2008 school year, training in Part II was delivered as four day trainings throughout the school year for previously untrained teachers; specific site trainings were also held for CMS teachers who had gone through TTT training.

Support: For the 2003–2004 school year, National Training Network provided onsite coaches one-half day per school per month for A+ schools; during the 2004 –2005 school year, National Training Network provided onsite coaches one-half day per month per school to all schools; during the 2005 –2006 school year, National Training Network provided onsite coaches one-half day per month per school to all schools; during the 2006 –2007 school year, National Training Network provided onsite coaches two one-half day visits per month to fourteen (14) schools; during the 2007–2008 school year, National Training Network provided onsite coaches two one-half day visits per month to six (6) schools.

Placement/Course Eligibility: In the first year, 2003 – 2004, Charlotte-Mecklenburg Schools, piloted Algebraic Thinking with 6th and 7th grade students in 15 Middle Schools. All students in Algebraic Thinking were below grade level at the start of the school year. In the second year, 2004 –2005, Charlotte-Mecklenburg Schools, implemented Algebraic Thinking with all basic level classes (students were placed in AT classes based on “below grade level” score on the NC End of Grade test) with 6th, 7th and 8th grade students in all 32 Middle Schools.

NOTE: Data collected after the second year of implementation included the following:

- Raised **55.2%** of 6th grade AT students to being on or above grade level on NC End-of-Grade tests
- Raised **44.1%** of 7th grade AT students to being on or above grade level on NC End-of-Grade tests
- Raised **41.6%** of 8th grade AT students to being on or above grade level on NC End-of-Grade tests

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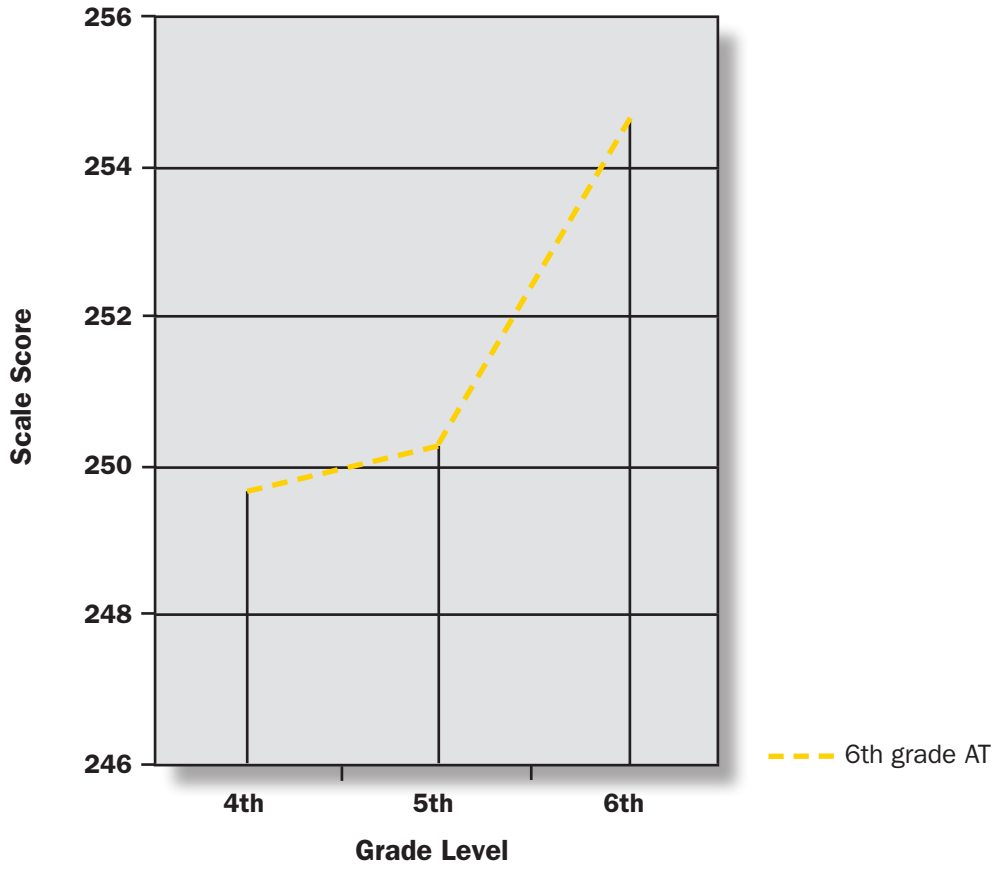
Charlotte Mecklenburg School District – Grade 6



The graph illustrates the pattern of Developmental Scale Scores for sixth grade AT students across three years (beginning with their scores in Grade 4, moving to Grade 5, and the ending with their 6th grade score -after the 6th grade year of Algebraic Thinking instruction).

The average Developmental Scale Score in 4th grade year was 249.56; in 5th grade year was 250.31; and in the 6th grade with Algebraic Thinking instruction was 254.73. Minimum scores of all three grade levels were between 234 and 236. The maximum score increased from **266** in the 4th grade to **280** by the AT 6th grade.

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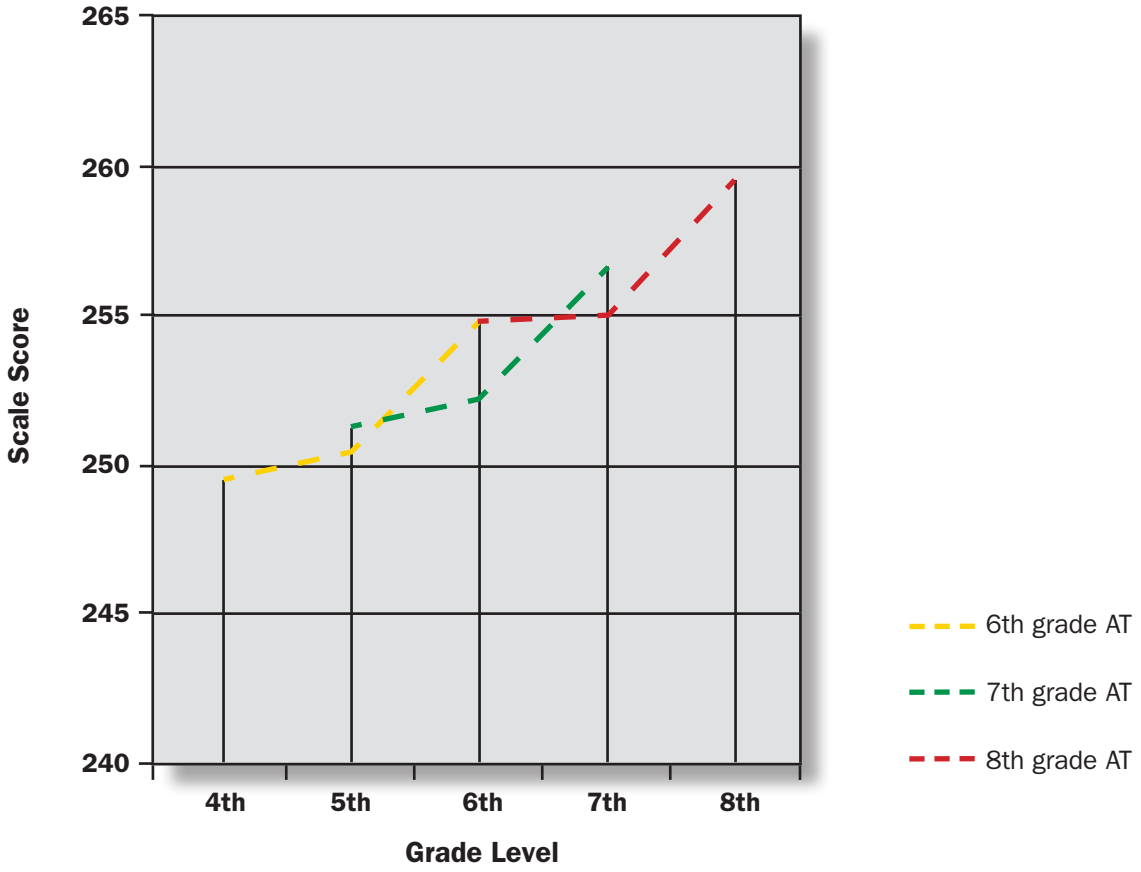
AT Growth Curves



The graph above illustrates overlapping AT groups per grade level across three years. The last point of each line is the average score of students in the AT program. Note that in each of the three year growth periods (4th to 6th), (5th to 7th), and (6th to 8th), the Algebraic Thinking year showed a growth spurt (from 5th to 6th – from **250.31 to 254.73** (ca.) – **4.42** points of growth); (from 6th to 7th – from **252 to 256** (ca.) – **4** points of growth); (from 7th to 8th – from **255 to 259** (ca.) **– 4** points of growth).

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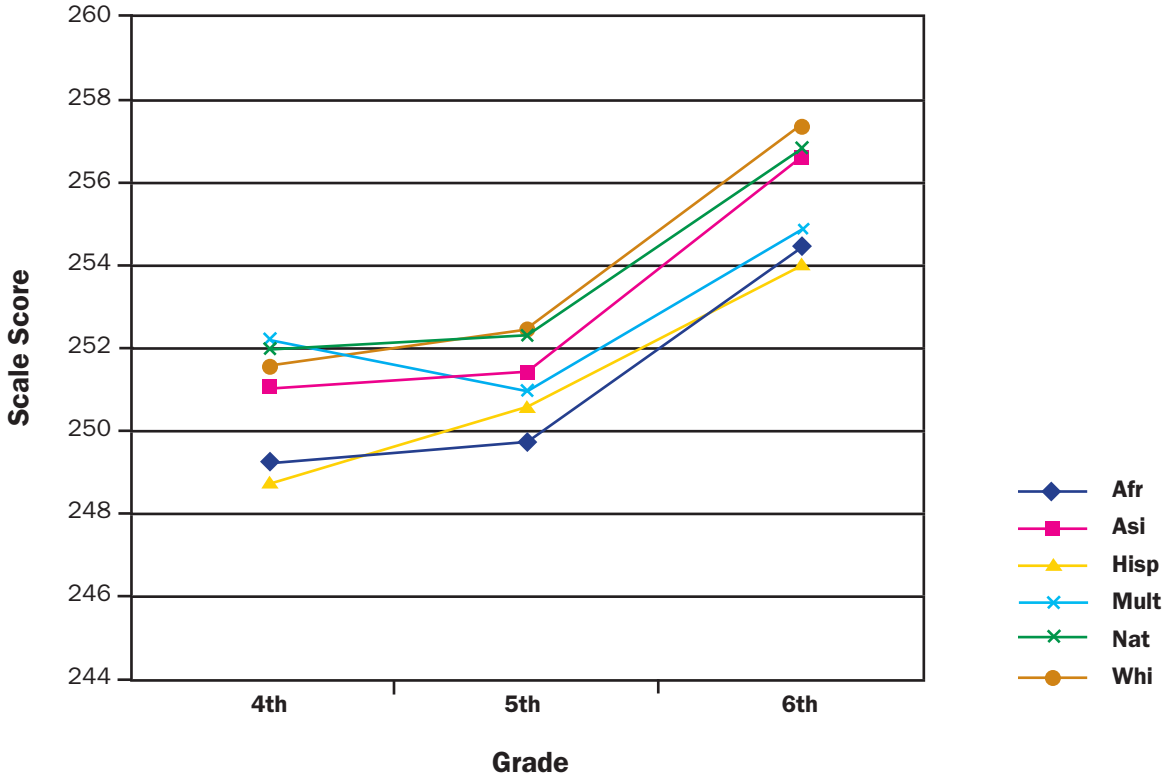
Growth by Ethnicity



The above graph illustrates Charlotte-Mecklenburg Math scores per ethnicity group beginning two years before and including the year of 6th grade Algebraic Thinking instruction. **Six out of six (100%)** of the ethnicity groups showed significant increases in scores after one year of Algebraic Thinking instruction.

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