

Establishing, Managing,
and Evaluating
an Elementary/Middle School
Math Acceleration Program

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Who is Gifted?

- A student is considered gifted if he/she scores at or above the 95th percentile or above on a standardized achievement test or shows an IQ of 130 or 2 SD above the mean.

Gifted Services 1996 - 2000

- Program began in 1996 by serving students grades 3-5.
- Core group at grade five by daily language arts class replacing regular language arts
- Students in grades 3-4 served through twice weekly 90 minute pullout class

Problems and Limitations with Initial Service Plan

- Students in grades 3-4 pullout program were being penalized for missing core academic content.
- Students identified gifted in math were not being served after grade 4.

First revised plan 2000-2002

- Accelerated math added as daily pullout to grades 5 first year and grade 6 second year, with 16 additional students served.
- Elementary pullout changed from 90 minutes to 45 minutes twice weekly
- Elementary program expanded to grade one

Concerns with First Revised Plan

- Students who completed accelerated math in grade 6 could not continue into Algebra during administrative changeover.
- Significant teacher concern over grades 1 and 2 students being removed from classes during core academic time despite high test scores
- Teacher concern over G/T student performance on proficiency tests

2002-2003 Program Restructuring

- Task force consisting of Gifted Coordinator, County Coordinator, and Superintendent developed new program based on core subject Mathematics acceleration
- Entire program reevaluated and early elementary program discontinued
- New screening and admissions system implemented
- Multi-year step-by-step program put in place

Why Subject-Specific Acceleration?

- Testing places emphasis on specific academic content
- Pullout programs often result in gifted students missing core classes with specific academic content
- In an era of cutbacks, acceleration provides a means of challenging students within the existing system

Why Math?

- Original Green Local program screened students gifted in IQ, reading, language arts and math.
- Core language arts class served only students identified in that area.
- Students identified gifted in math but not in language arts were not being served by a language arts only program.

Why Math Acceleration – Part One

- Curricula and lesson pacing are usually designed for the majority of students within the \pm one SD range
- Gifted students are capable of doing academic work at a significantly faster pace and/or higher level of difficulty.

Why Math Acceleration - Continued

- Mathematics easy to accelerate due to linear character of subject matter
- Curriculum already in place takes maximum advantage of existing classes and resources.
- Minimum disruption of student schedule
- Maximum administrator support due to demonstrated improvement in proficiency test scores, which helps school average.

Initial Objections and Concerns

- Top students removed from regular classes
- Scheduling accelerated classes required cluster grouping in grades 5 and 6 home rooms, promoting elitist attitude among gifted students
- Grade 7 students taking Algebra would miss significant part of Grade 7 experience.
- Grade 8 students taking Geometry would require coordinating middle and high school schedules

Responses to Objections and Concerns

- Allowing top students to accelerate will help their own academic progress and keep them interested and challenged
- Cluster grouping can be minimized by creative scheduling
- Grades 7 and 8 schedules can be coordinated to allow grade 7 students to take a class from a grade 8 teacher.

Current Service Plan 2003-present: Class Selection for 4th Grade

- Students identified by 3rd Grade OLSAT test administered in October of 3rd grade year: 93.8+ Math score main requirement
- Additional students may be nominated by 3rd grade math teacher or building principal.
- Students elect program for 4th grade year after meeting with parents

4th Grade Math Acceleration

- Grade 4 math students given daily accelerated math instruction in place of regular math class.
- Students cover identical curriculum as regular 4th grade, but at higher speed and with more homework.
- Students may retake chapter tests one time if required.

Results of 4th Grade Math Acceleration – First Two Years

- 285 Average 4th Grade Math Proficiency Score
- Lowest score 265, highest score 310.
- 4th Grade math text completed in early March.

Fifth Grade Program

- Grade 5 math students completed grade 5 and grade 6 curriculum in one year.
- 100% retention of all fifth grade students into sixth grade program.
- Exceptional OLSAT scores during grade 5.

Sample Scores after Grade 5

3rd and 5th Grade OLSAT Comparison

Grade 3
Grade 5

	TR	TL	TM	Av	V	NV	TR	TL	TM	Av	V	NV	OH
Jim	97.9	90.8	79.7	123	120	122	95.8	98.9	95.8	124.0	120	124	87
Kate	98.9	76.6	87.7	128	123	128	82.7	91.8	98.9	132.0	126	137	90
Franky	98.9	85.7	87.7	123	113	132	80.7	74.6	97.9	125.0	120	129	72
Beth	95.8	99.9	64.6	137	143	124	98.9	99.9	92.8	130.0	140	125	84
Harry	85.7	99.9	82.7	123	116	126	91.8	74.4	95.8	122.0	123	118	86
Tim	97.9	90.8	95.8	134	143	121	95.8	98.7	92.8	126.0	123	124	72

Sixth Grade Program

- Students complete standard 7th Grade PreAlgebra text and curriculum
- Completing course with B- or better will qualify for Algebra I in 7th Grade
- Class currently taught by Gifted Program teacher.

Unexpected Outcomes for Grade 6

- Students able to maintain high level of homework and test completion, with average of 50-100 problems per week
- Average chapter completed in eight class days with 94% average.
- Exceptionally high scoring on Orleans-Hanna Algebra Prognosis test and Test of Mathematical Ability (TOMA II)

Orleans-Hanna Score Comparisons after one year of Acceleration

	3/04 score	2/05 score
Timmy	72	86
Franky	72	90
Harry	86	91
Bill	87	92
Beth	84	92
Kate	90	93
John	79	94

- High school geometry schedule can be developed after appropriate planning and schedule coordination.
- Past students who accelerated through program have demonstrated exceptional achievement and early college admissions through PSEO.

Sample Scores for Core Group

	3rd Grade Test Scores						5th Grade Test Scores						Proficiency			OHP
	Achievement			IQ			Achievement			IQ			2004 Scores			
	TR	TL	TM	Av	V	NV	TR	TL	TM	Av	V	NV	Mth	Rd	Writ	
													6th Grade Prof.			
Sean	87.7	87.7	99.9	145	136	144	91.8	96.9	99.9	141	140	137	278			79
Jenna	99.9	94.8	98.9	127	129	120	72.6	91.8	92.8	114	111	113	272			86
Sarah	91.8	99.9	92.8	129	127	124	94.8	94.8	93.8	122	120	121	293	273	8	89
Curtis	99.9	98.9	97.9	142	145	131	97.9	99.9	99.9	141	139	134	278	300	8	89
Zach	99.9	87.7	95.8	142	146	132	99.9	98.9	97.9	144	133	147	285	280	8	95