

## Total School Cluster Grouping

### A Model to Improve Student Achievement and Teacher Practices

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## Why Do We Educate Children? Re-focusing

To help each individual child reach his or her fullest potential for life-long learning, productivity, and citizenry in a diverse democracy and a global society ....

## Generic Cluster Grouping

Common gifted education practice that places a group of high achieving, gifted, or high ability students in a classroom with other students and with a teacher who has received training or who is willing to differentiate curriculum and instruction for the identified cluster students.

Is not concerned with the other students or classes.

## Rationale for Cluster Grouping

- The program is cost effective
- Allows for full-time services for G/T students
- G/T students clustered with their intellectual peers, as well as with age peers
- Some heterogeneity maintained
- Deliberate reduction in number and diversity of achievement groups for every teacher
- Removal of highest achievers allows other students to emerge as achievers

## Rationale for Cluster Grouping

- High achievers placed with teachers who have training, expertise, and desire to differentiate curriculum and instruction and to meet their needs
- High expectations maintained in all classrooms
- All staff benefit from professional development and methods used with the high achieving cluster

## Background

- Conducted the original study in the mid 1990's
  - NRC/GT monograph
  - GCQ article
  - Seminal study
  - New chapter in the Systems & Models book
- New book
- New replication research on-going
- Scale-up National Project (2009-2014)

## Total School Cluster Grouping Definition, Features, and Goals

1. **Specific, effective, researched application of cluster-grouping**
2. **Involves all children and all teachers**
3. **Focuses on gifted education and talent development as the basis for all classrooms**

## Features of Total School Cluster Grouping

4. Yearly identification based on student performance, with the expectation that student achievement will increase as students grow, develop and respond to appropriately differentiated curriculum
5. Identification encompasses low to high achieving students, with *all* student achievement levels identified
6. The classroom that contains the cluster of high achievers contains no above average students, as these students are clustered in the other classrooms

## Features of Total School Cluster Grouping

7. Some classrooms may contain clusters of special needs students *with assistance* to the classroom teacher
8. Teachers may flexibly group within or among grade levels as well as use a variety of flexible grouping strategies within their classrooms
9. All teachers receive inservice in gifted education strategies

## Research-based Benefits of Cluster Grouping

- Gifted students regularly interact with their intellectual and age peers
- Full-time services for gifted students without additional costs
- Curricular and instructional differentiation is *efficient, effective, and likely* when a group of high achievers is placed with a teacher who has skills and knowledge
- High expectations maintained in all classrooms

## Research-based Benefits of Cluster Grouping

- Removing the high achievers from classrooms allows other student to emerge as achievers
- Student achievement increases when cluster grouping is used
- Over time fewer students are identified as low achievers and more students are identified as high achievers
- Reduces the range of student achievement levels that must be addressed by teachers in all classrooms

## Unique, Flexible, Student-Based Identification System

- Uses a combination of tests and teachers to identify the *achievement* levels of all students that works with any learners
  - High Achieving
  - Above Average
  - Average
  - Low Average
  - Low
  - Special education

## Definitions of ID Categories

1. *High Achieving* students are great at both math and reading.
2. *Above Average Achieving* students are good at math and reading or are great at either math or reading.
3. *Average Achieving* students achieve on grade level; they neither struggle nor do they excel.
4. *Low Average Achieving* students struggle slightly with reading and math, or they struggle with either reading or math.
5. *Low Achieving* students find school difficult, they struggle in all academic areas and are at risk of failure.

## Terminology: Ability vs. Achievement

ACHIEVEMENT	ABILITY
Observable, Measurable	Latent
Variable	Fixed
Develops	Something one has
Readily accepted	Can bring out biases
Can be influenced by education	A predetermined quantity

## Unique, Flexible, Student-Based Identification System

- Tests are used for means of *inclusion* only, not for *exclusion*
- Ever know a kid who is really bright but who doesn't test well and who, thus doesn't qualify?
- What about the kid who *can* but *won't*?
- Who generally knows the kids best, tests or teachers?
- Multiple labels allowed!

## Placement in Classrooms

- Facilitates reduction in the number and range of achievement groups for every teacher
- Evenly distributes the behavior problems
- Considers each child, each class each year
- Encourages collaboration within and among grade levels

## ID, Placement, Classroom Configuration

- Class lists prepared--based on data
- Changes made during placement conference with teachers
- Parent requests, behavior issues, separation issues, and teacher fit issues are addressed
- One classroom had group of students identified as *high achieving*, with other students identified as *average, low average or low*

## ID, Placement, Classroom Configuration

- Other classrooms each contained a group of Above Average students
- Sometimes a classroom would contain a LD or EBD cluster with assistance of a Teacher Consultant in the classroom
- Clusters of students receiving math or reading assistance might exist
- Some sites have arranged for clusters of English language learners with assistance

### Sample Classroom Configuration

ID Category	3 <sup>rd</sup> grade Clsrm 1	3 <sup>rd</sup> grade Clsrm 2	3 <sup>rd</sup> grade Clsrm 3	3 <sup>rd</sup> grade Clsrm 4	3 <sup>rd</sup> grade Clsrm 5	3 <sup>rd</sup> grade Total grade
High Achieving	11	0	0	0	0	11
Above-Average	0	7	7	7	7	28
Average	8	8	8	8	8	40
Low-Average	4	4	2	4	6	20
Low	0	6	6	4	0	16
Sp. Educ.	2*	0	2	2	4**	10
<b>Total</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>125</b>

### Sample Classroom Configuration

ID Category	2 <sup>nd</sup> grade Clsrm 1	2 <sup>nd</sup> grade Clsrm 2	2 <sup>nd</sup> grade Clsrm 3	2 <sup>nd</sup> grade Clsrm 4	2 <sup>nd</sup> grade Total grade
High-Achieving	8	0	0	0	8
Above-Average	0	7	7	7	21
Average	10	10	10	10	50
Low-Average	5	0	5	5	15
Low	0	8	0	3	11
Sp. Educ.	2*	0	3**	0	5
<b>Total</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>100</b>

### Sample Classroom Configuration

ID Category	4 <sup>th</sup> grade Clsrm 1	4 <sup>th</sup> grade Clsrm 2	4 <sup>th</sup> grade Clsrm 3	4 <sup>th</sup> grade Total grade
High-Achieving	6	0	0	6
Above-Average	0	7	6	13
Average	10	10	10	30
Low-Average	8	0	6	14
Low	0	8	0	8
Sp. Educ.	1*	0	3**	4
<b>Total</b>	<b>25</b>	<b>25</b>	<b>25</b>	<b>75</b>

\*note. This student is twice-exceptional.  
 \*\*note. These students see the same teacher consultant who also helps the classroom teacher.

### Sample Classroom Configuration

ID Category	5 <sup>th</sup> grade Clsrm 1	5 <sup>th</sup> grade Clsrm 2	5 <sup>th</sup> grade Total grade
High-Achieving	6	0	6
Above-Average	0	7	7
Average	10	10	20
Low-Average	7	0	7
Low	0	6	6
Sp. Educ.*	2	2	4
<b>Total</b>	<b>25</b>	<b>25</b>	<b>50</b>

### Sample Classroom Configuration

ID Category	3 <sup>rd</sup> grade Clsrm 1	3 <sup>rd</sup> grade Clsrm 2	3 <sup>rd</sup> grade Clsrm 3	3 <sup>rd</sup> grade Clsrm 4	3 <sup>rd</sup> grade Clsrm 5	3 <sup>rd</sup> grade Total grade
High-Achieving	10	10	0	0	0	20
Above-Average	0	0	7	7	7	21
Average	0	8	8	8	0	24
Low-Average	16	0	0	9	0	24
Low	0	6	10	0	10	26
Sp. Educ.	0	2*	0	2	4**	10
<b>Total</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>26</b>	<b>21</b>	<b>125</b>

\*note. These students are Learning Disabled and Gifted.  
 \*\*note. These students are LD and see the same teacher consultant who spends 4 half days per week working in this classroom, the teacher consultant will work in the classroom with the teacher. Her class size has been reduced.

### Addresses the Limited Seats on the "Gifted Bus" Syndrome

- Think about the under-represented kids in a system of programming that limits the numbers of students who can be gifted
- What if there are more or fewer kids in a given year?
- TSCG addresses this, as students who need services are served, it's that simple.



## Provides full-time services

- Gifted kids are gifted more than once a week
- Integrates the g/t program with the general education program
- Adds no additional cost, but adds considerable expertise
- Works in conjunction with other programs and services, e.g., pull-out, send-out, self-contained

## Programming

- Promotes flexible uses of achievement grouping
- Removes the ceiling
- Targets various readiness and achievement levels so that students can make progress
- Facilitates authentic differentiation and continuous progress
- Brings gifted education to the masses

## General Education Borrows Gifted Education Strategies: Students Benefit

- Individualization
- Curriculum compacting
- Challenges
- Choices
- Interests
- High teacher expectations
- Use of grouping

## Addresses the Ability-Grouping Myths

- You took my sparks
- The gifted kids are the models and leaders for the other kids
- Ability is fixed
- Grouping hurts the kids, removing the high achievers causes others to fail
- If we label or tell the students, they'll know
- It can all be done in the regular heterogeneous classroom

Table 1. Grouping Terminology Summary.

Term	Definition
Cluster Grouping	The placement of several high-achieving, high-ability, or gifted students in a regular classroom with other students and a teacher who has received training or has a desire to differentiate curriculum and instruction for these gifted students.
Total School Cluster Grouping	Cluster grouping model that takes into account the achievement levels of all students and places students in classrooms yearly in order to reduce the number of achievement levels in each classroom and facilitate teachers' differentiation of curriculum and instruction for all students and thus increase student achievement.
Ability Grouping	Students are grouped for the purpose of modification of pace, instruction, and curriculum. Groups can be flexible and arranged by subject, within classes, or between classes.
Achievement Grouping	Focuses on demonstrated levels of achievement by students and is viewed as something dynamic and changing. Groups can be arranged by subject, within classes, or between classes.
Between Class Grouping	Students are regrouped for a subject area (usually within an elementary grade level) based on ability or achievement. Teachers instruct students working at similar levels with appropriately challenging curricula, at an appropriate pace, and with methods most suited to facilitate maximum gain.
Within Class Grouping	These groups are differentiated arrangements teachers use within their classes. Groups may be created by interest, skill, achievement, job, ability, self-selection. Either heterogeneous or homogeneous. Can include various forms of cooperative learning grouping arrangements. Groups are intended to be flexible.
Tracking	The full-time placement of students into ability groups for instruction usually by class and at the secondary level. Little opportunity exists to move between tracks.
Flexible Grouping	The use of various forms of grouping for instruction, pacing, and curriculum in such a manner to allow for movement of students between and among groups based on their progress and needs.

## Considers the Total School

- Does not “rescue” gifted kids from general education, rather brings gifted education to general education
- Becomes part of the total school plan
- Addresses individual children’s and teachers’ needs

## Program Philosophy and Practices

- Curricular emphasis placed on advanced methods and content
- High teacher expectations were the norm
- Flexible, individualized, student oriented approach to placement and teaching
- Extensive, responsive, on-going professional development
- Flexible grouping

## Research Questions & Results

1. Is cluster grouping related to teacher perceptions of student achievement as measured by teacher identification categories?
2. How does the achievement of students from a school using cluster grouping compare with that of students in a similar school not using cluster grouping?

## Research Questions & Results

3. How does cluster grouping affect the representation and achievement of students from underrepresented populations?
4. What factors exist within the classroom and school using cluster grouping that may influence student achievement?

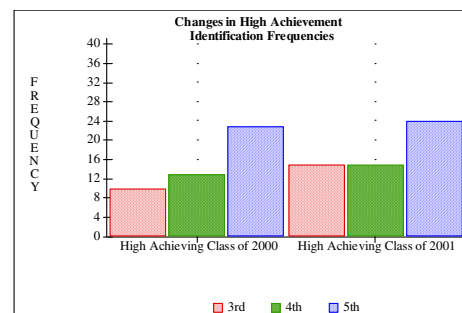
## Methods & Procedures

- Quasi-experimental, descriptive, experimental
- Entire grade levels of students over time, different settings
- Use of NCE achievement, repeated measures
- Qualitative component

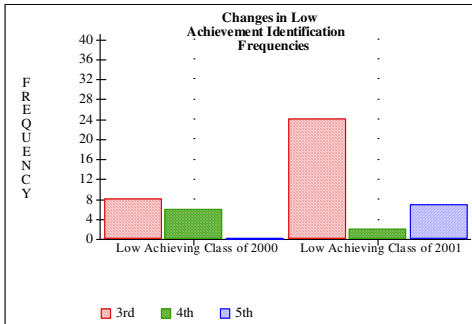
## Identification findings

- Changes in identification categories were consistent
- Number of students identified as HA increased during the 3 program years
- Number of students identified as LA decreased during the 3 program years

## Identification frequencies



## Identification Frequencies

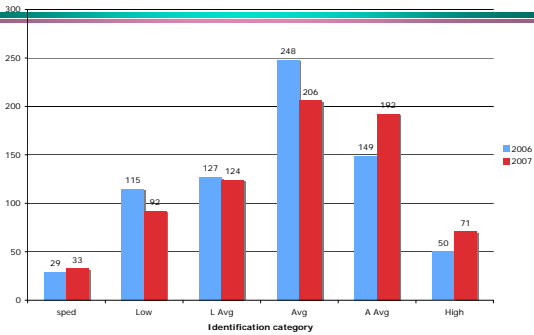


## Identification Frequencies

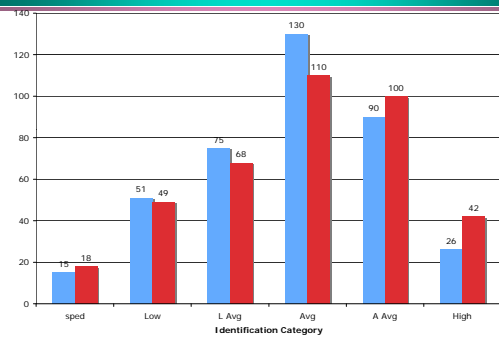
### Changes in identification frequencies

	Class of 2000	Class of 2001
Increased	47%	34%
Decreased	3%	9%
No Change	40%	45%
Varied	9%	12%

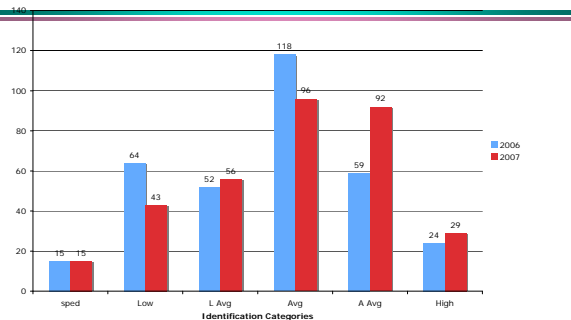
### Total Sample Identification Categories: Years 1 & 2



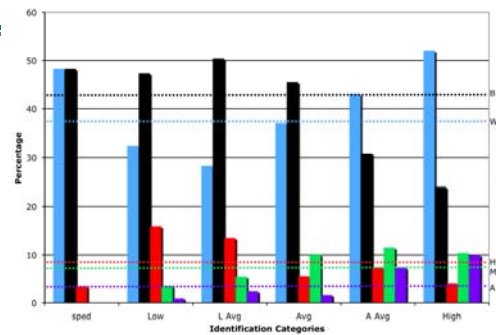
### Treatment School 1 Identification Categories: Years 1 & 2

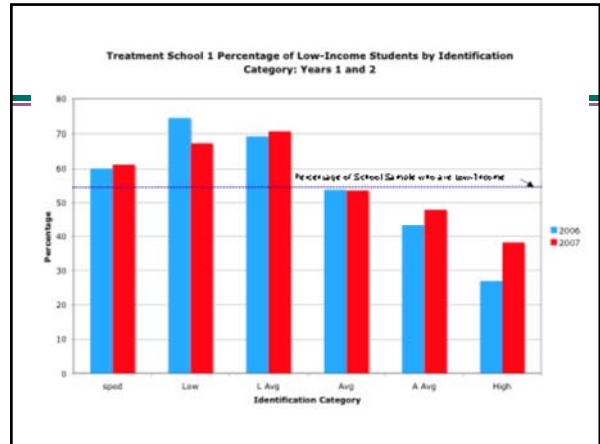
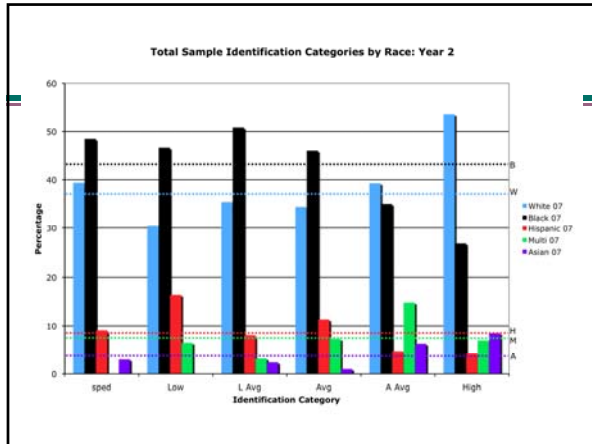


### Treatment School 2 Identification Categories: Years 1 & 2



### Total Sample Identification Categories by Race: Year 1





### Identification findings

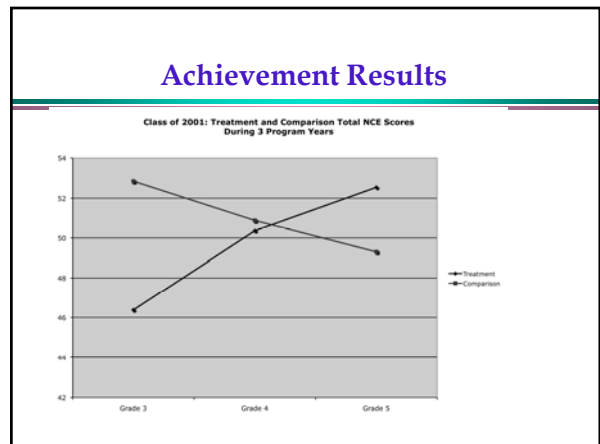
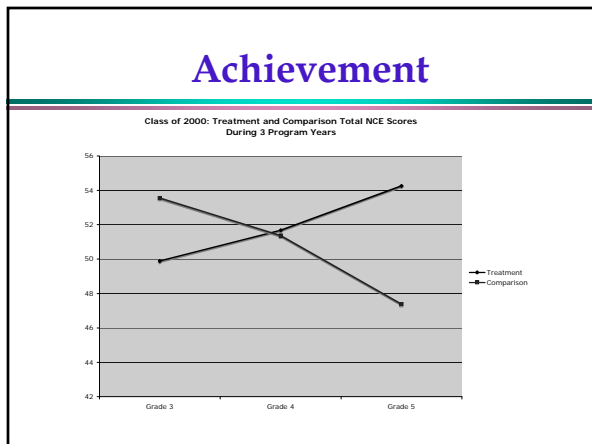
*The high achieving students were all with [teacher 5A], and we expected more from the students we had. By removing some of the higher kids it may have influenced the others to work harder. . .and maybe teachers expected more because we didn't have the higher students and treated it as a regular classroom and expected the average students to rise to the occasion.*

--Teacher 5C

### Identification findings

*The high achieving students were all with [teacher 5A], and we expected more from the students we had. By removing some of the higher kids it may have influenced the others to work harder. . .and maybe teachers expected more because we didn't have the higher students and treated it as a regular classroom and expected the average students to rise to the occasion.*

--Teacher 5C





## Student Achievement Increases

- Students in the treatment school began with lower total achievement than those in the comparison school
- After 3 years in the CG program, treatment school students outperformed their comparison school counterparts
- Much of the increase can be attributed to the students from categories other than “high achieving.”

## Student Achievement Increases

*Maybe CG had a lot to do with it. The CG may give the lower achieving students more self-confidence, because I think they become more involved in class when the high achieving kids are removed...you know those high kids are competitive and tend to dominate class sometimes.*

--Teacher 4C

## Student Achievement Increases

*...when you pull those really high kids out--those who always have their hands up first and jump in with the answers--when you get rid of those students by putting them together in the cluster classroom--the other kids have a chance to shine. They take risks more often, and see themselves as leaders of the group. They are no longer frightened to offer answers.*

--Teacher 3E

## Qualitative Explanations

- The Use of Grouping
- Teachers Matter
- The General School Environment

## The Use of Grouping

- Within-grade grouping by skill levels for math and reading
- Within-class grouping
- Flexible grouping
- Grouping affected identification (93% of teachers believed it led to more student identified as AA/HA)
- Grouping helped teachers meet individual needs in classrooms

## Grouping and Student Needs

*By using achievement grouping we are able to challenge the high achievers and meet the needs of the low achievers without having either feel like they've been singled out. We are able to adjust our curriculum and instruction to meet the individual needs of the students at their levels. Cluster grouping helps us do this.*

--Teacher 3C

## The Roles and Effects of Teachers

- Teachers matter
- Their classroom environments were positive
- High, Yet Realistic Teacher Expectations
- Integrating thinking skills, problem solving, projects, acceleration, adjusting assignments
- Spending time with high achievers, developing curricular extensions
- Providing choice of partners or groups, or to work alone or together
- Using open-ended questions, independent study, challenge questions, curriculum compacting, enrichment, choice of problems or assignments

## The General School Environment

- Strong Administrative Leadership and Support
- Professional Development Opportunities
- Belief in Colleagues and Collaboration
- Program Benefits to *All* Students and Teachers

## Shared Leadership

*The teachers are the ones making the decisions, so they have a great deal of say in the program. I think that this type of leadership in the classroom has given them real ownership in the program. Our job as administrators is to support the program that the teachers have developed*

---Superintendent

## Professional Development and Collaboration

*I've learned so much from [Teacher 3A] and I adapt many of the strategies that she uses with her high achievers and use them with my learning disabled and low achievers. I don't think that gifted education is just for gifted students.*

---Teacher 3B

## Implications: Identification Findings

- Cluster grouping used in conjunction with challenging instruction and high teacher expectations, may improve how teachers view their students with regard to ability and achievement

## Implications: Achievement Findings

- Cluster grouping may positively influence the achievement of all students
- Flexible achievement grouping used in conjunction with challenging curriculum should be considered when designing educational programs

## Implications: Qualitative Findings

- The use of gifted education “know-how” has the potential to improve general education practices
- Unlike suggestions by many reformers, the elimination of grouping may not be beneficial to students and teachers.
- Professional development in gifted education should not be restricted to just those teachers responsible for students identified as gifted

## General Implications

- A well developed cluster grouping program can offer gifted education services to high achieving students while helping teachers better meet the needs of all students
- Placing the high achievers in one classroom can increase the chance that their needs will be met while offering the opportunity for talent to emerge in the other classrooms
- Restricting the range of achievement levels in elementary classrooms can help teachers better address individual needs

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