

Grouping Students to Maximize Learning and Minimize Inequality: New Hope or False Promise?

Adam Gamoran
University of Wisconsin-Madison



WCER
WISCONSIN CENTER FOR EDUCATION RESEARCH

Why Do Schools Assign Students to Classes by “Ability”?

- Seems logical and efficient
 - Students differ in their performance levels, so divide students to match instruction more closely to their needs
 - A narrower range of student performance levels makes it easier to organize the curriculum
- So why is this problematic?

Problems of Ability Grouping

- Due to circumstances outside of school, separating students by academic performance may also separate them by race and social class
- Homogenous classes lack the diversity that may foster rich discussions

Problems of Ability Grouping

- Although ability grouping is intended to provide equally effective instruction to all students, that rarely occurs
 - *Teachers* are also tracked
 - Cycle of low expectations
 - Low-level classes as caricatures
 - Emphasis on procedures in low-level classes, discussion in high-level classes

Ability Grouping and Unequal Instruction

Track Level

	Low	Middle	High	
Discussion time (minutes/lesson)	.70	1.44	3.30	
Envisionment (standardized)	-.52	-.06	.80	
Revision of content (0-1)	.53	.60	.73	
Homework (hours/week)	.88	.98	2.01	

Source: Applebee, Langer, Nystrand, & Gamoran, 2003.

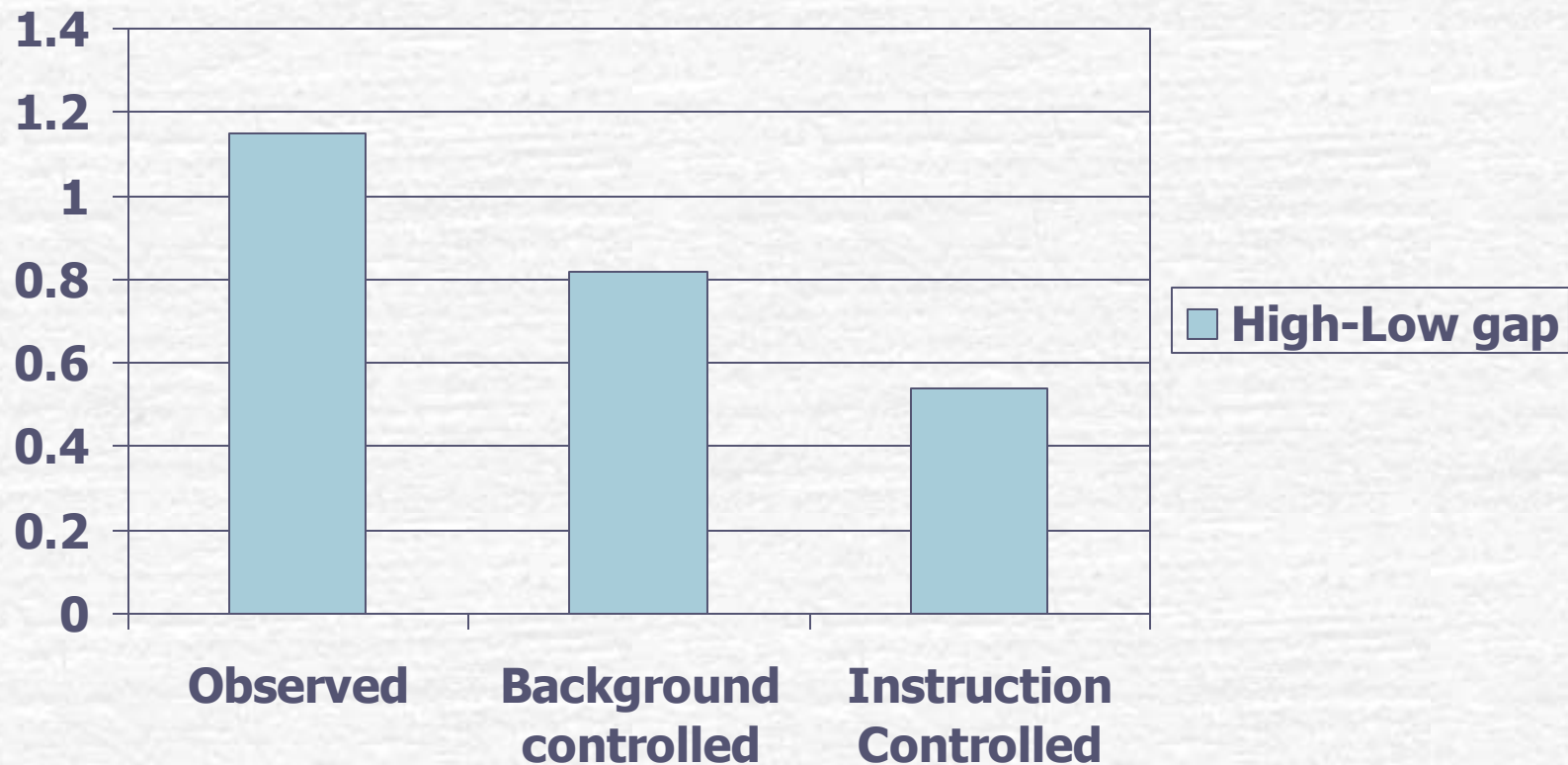
Ability Grouping and Unequal Instruction

Track Level

	Low	Middle	High	Mixed
Discussion time (minutes/lesson)	.70	1.44	3.30	1.42
Envisionment (standardized)	-.52	-.06	.80	-.24
Revision of content (0-1)	.53	.60	.73	.47
Homework (hours/week)	.88	.98	2.01	1.01

Source: Applebee, Langer, Nystrand, & Gamoran, 2003.

Achievement Gaps between High and Low Tracks



Source: Applebee, Langer, Nystrand, & Gamoran, 2003.

Problems of Ability Grouping

- Partly as a result of unequal classroom conditions, inequality between students assigned to high- and low-level classes widens over time

Consequences of Ability Grouping

- No effect on achievement **productivity**
- Increase in achievement **inequality**
- Supporters focus on productivity while critics emphasize inequality



Consequences of Ability Grouping

- New international research finds the same pattern as in the U.S.: tracking is linked to increasing inequality
- A few exceptions: performance incentives boost outcomes for low-track academic students (Israel, Taiwan)

Responses to the Problem

- Reduce the use of ability grouping, but provide challenging instruction to high achievers
- Maintain ability grouping, but provide effective instruction in low tracks

Responses to the Problem

- New research suggests promising new directions for both responses
 - Conditions that support successful mixed-ability teaching
 - Conditions that support effective instruction in low groups or tracks

Successful Mixed-Ability Teaching

- Case study of detracking in a New York school district
 - Carol Burris and colleagues
 - Replaced tracking with mixed-ability teaching in middle and high school math
 - Improved outcomes for low achievers without losses by high achievers

Successful Mixed-Ability Teaching

- Middle school reform
 - Accelerated curriculum for all students
 - Extra support workshop for struggling students
 - Common planning time for teachers
 - Increased use of calculators

Successful Mixed-Ability Teaching

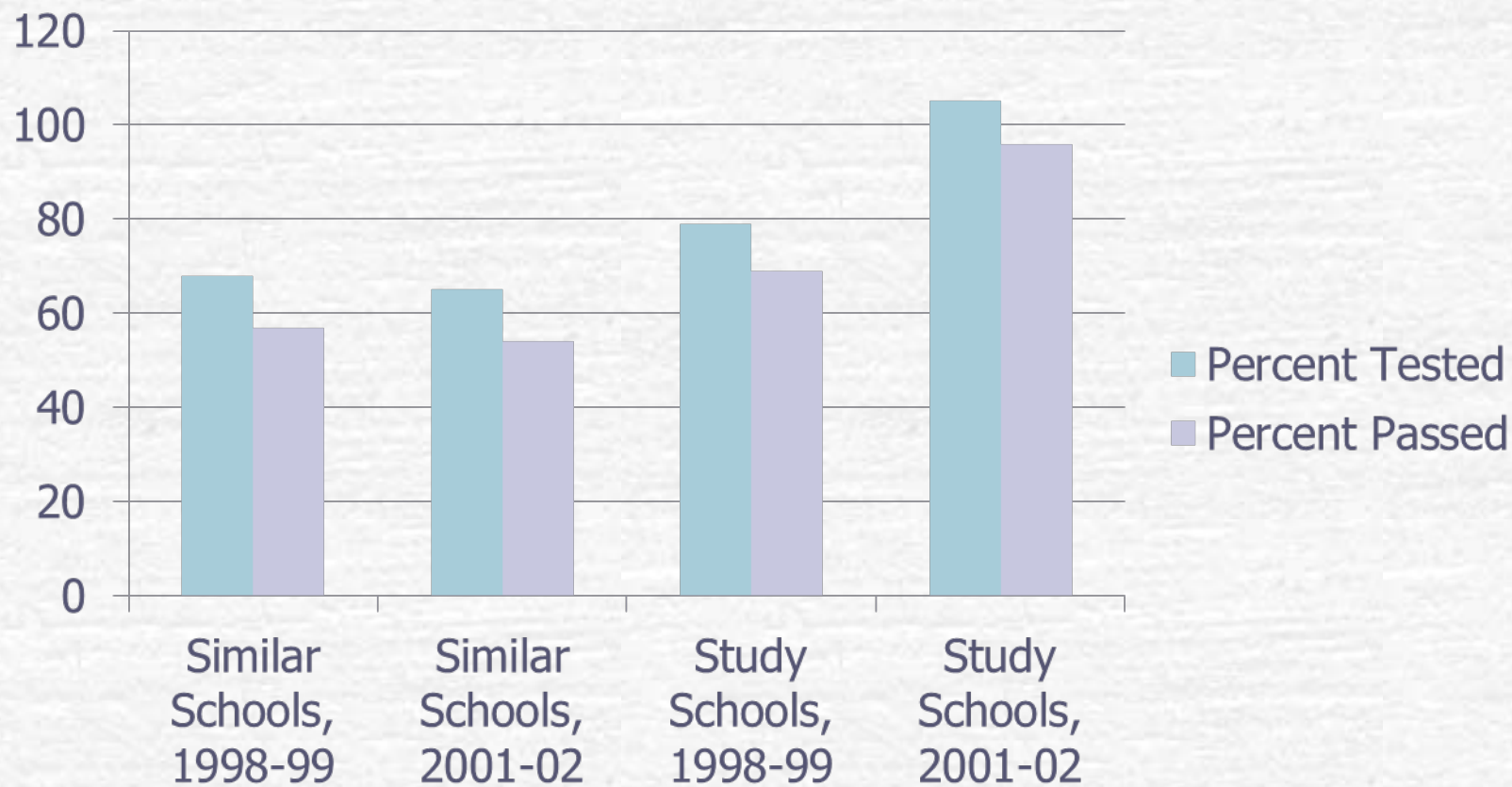
- High school reform
 - All students assigned to Regents classes
 - Supplementary class for students who struggled with the more advanced material
 - Met three times each week

Successful Mixed-Ability Teaching

Research design

- Interrupted time series
- Compares successive cohorts of students in the same school, and to other schools that did not undergo the reform

Burris: High School Results



Source: Burris, Heubert, and Levin, 2006.

Conditions that Support Successful Mixed-Ability Teaching

- ✓ Substantial supplementary instruction for low-performing students
 - High school: 50% more instructional time
- ✓ Note: this was an affluent district with few high-needs students
- ✓ Not clear how far the results will generalize

Conditions that Support Successful Mixed-Ability Teaching

- Similar findings from a 1998 study of mixed-ability teaching in an urban school
 - Additional resources allowed a Saturday tutoring program and small class sizes
 - Admission required an interview for students
 - Still a diverse student body

Conditions that Support Successful Mixed-Ability Teaching

• Evidence is accumulating that:

- Successful mixed-ability teaching is possible
- Extra resources to support low-achieving students is an enabling condition

Grouping Students to Close Achievement Gaps

- New research on grouping systems that close gaps instead of magnifying gaps
 - Carol Connor and colleagues
 - A series of studies on grouping students for early reading instruction

Grouping Students to Close Achievement Gaps

- Diagnosis and instructional response
 - Assess reading performance
 - Input assessment results to a computer algorithm called “Assessment to Instruction” (A2i)
 - Diagnoses student performance
 - Recommends an instructional response
 - Recommends within-class groupings to facilitate instructional responses

Grouping Students to Close Achievement Gaps

Randomized evaluation

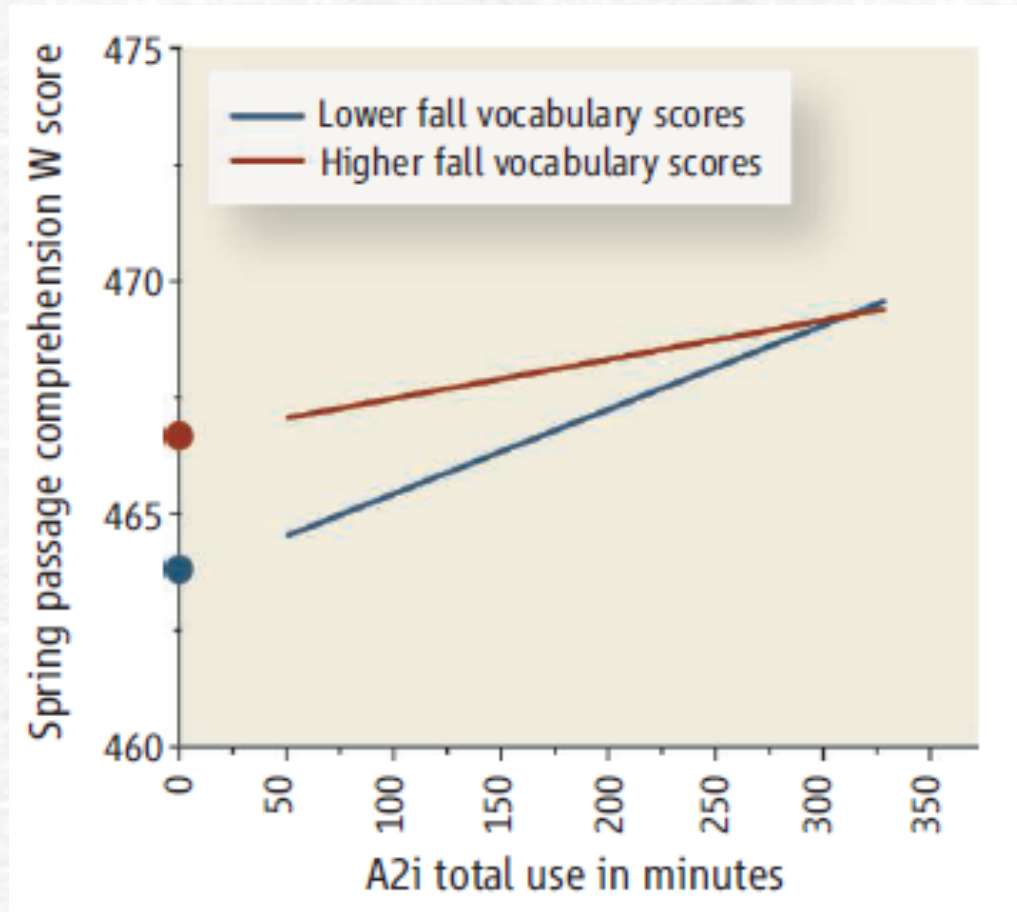
- Teachers in the “treatment” group received the A2i software and training on how to use it
- Comparison group of teachers who did not receive A2i

Grouping Students to Close Achievement Gaps

Results

- Students whose teachers were assigned to the A2i group outperformed those in the control conditions
- Low-achieving students received the largest benefits
- The benefits were greatest for students whose teachers made most use of A2i

Connor: First Grade Results



Source: Connor et al. 2007, p. 465.

Conditions that Support Successful Use of Grouping

- Connor's results echo long-ago conclusions of Robert Slavin (1987)
- Ability grouping can be effective *if*:
 - Students are assigned to groups based on the specific skill to be taught
 - Instruction is targeted to the specific skill
 - Grouping arrangements are flexible

Grouping Students to Close Achievement Gaps

- Another approach to maximizing achievement through grouping
 - Optimal matching of teachers and students
- Annual testing of students can provide evidence of teachers' contributions to student achievement
- Are some teachers more effective with one type of students than with others?

Grouping Students to Close Achievement Gaps

- Requirements for optimal matching
 - Annual achievement data
 - Students linked across years and to teachers
 - Test for differential effects
 - Teachers may not produce the same effects with all students
 - In particular – some may be more effective with high achievers, others with low achievers

Grouping Students to Close Achievement Gaps

- *IF* there are differential teacher effects
 - Students may be assigned to teachers who are particularly effective with students with their qualities
 - Students would get teachers who, based on past performance, are expected to bring out the best in them
 - Teachers would get students who are like those with whom they've had success

Grouping Students to Close Achievement Gaps

Problems with optimal matching

- Not clear there are differential effects, or that they are widespread
 - What if many teachers are especially effective with high achievers, but few are especially effective with low achievers?
- Not clear that assessments are good enough to be meaningful
- No study has examined this in practice

Conclusions

- “Neither tracking nor heterogeneous grouping is necessarily good or bad. The effectiveness of grouping depends on the specific situation and the needs within a school.”

-- NEA, 1990

Conclusions

- Eliminate dead-end courses.
- Where ability grouping is maintained, implement high standards for low-achieving students.
- Where ability grouping is eliminated, see that standards for high-achieving students are not lowered.

Conclusions

- Under the best of circumstances, both approaches can be successful
- It is not clear whether the best circumstances can be widely implemented