



64TH CONFERENCE ON EXCEPTIONAL CHILDREN

**WORKING TOGETHER
TO ACHIEVE STUDENT SUCCESS**

**Math Intervention at
the Secondary Level**

Alamance-Burlington School System
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PUBLIC SCHOOLS OF NORTH CAROLINA
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ABSS Reacts to DPI changes

- Change in 2012 to DPI Math graduation options/requirements (substitution)
 - Introductory Math and Foundations of Math I could be used as 2 of the required 4 math credits. This applies to students on the substitution pathway.



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Our next step - determine our target group....

How many Juniors in ABSS did not have a Geometry credit?

- Spring 2012 - 167 Juniors enrolled (45 retaking)

After seeing this data, we pulled the same information on Sophomores.

- Spring 2012 – 591 Sophomores enrolled (18 retaking)

Time for change!

- EC and Curriculum had already worked together on a math pathways document
- EC Graduation Plan created as well
- Departments problem-solved and created a proposal to meet the needs

Rationale for HS intervention

- Researched-based math intervention that is offered at six high schools for all students.
- Continuation of intervention from middle school to high school as many students received a research based intervention in middle school.

How we made it happen....

- District support from EC and Curriculum Divisions
 - Provide student and teacher materials
- Professional development for High School General Education Math and EC Teachers
 - Substitute cost for training and observations
 - Coaching/support via fidelity checks and district PLC's
 - Currently in year 2 of implementation
 - Responding to teacher concerns
 - Calculator usage, assessments, pacing (lesson components)

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ABSS District Implementation Plan

- All Intervention Math courses delivered as Co-taught classes
 - supported through coaching and professional development (ABSS District Team and fidelity checks)



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Student Selection

- Utilizing ABSS Math Course Placement Criteria Documents to determine appropriate placement within course(s)

[E:\EC Conference\Math Course Placement Criteria for 2014 - 2015 for EC Conference.docx](#)

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What data points does your district use for math placement?



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Structure of Math Intervention Courses

- 90 minute block
- 2 lessons per day
- Introductory Math (Level 2 of Trans Math)
- Foundations of Math I (Level 3 of Trans Math)

- Based on student's data points – determines math intervention sequence
 - Introductory Math paired with Foundations of Math I
 - Foundations of Math I paired with Math I/Co-Taught Math I

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Components of the program

Students	Teachers
<ul style="list-style-type: none"> • Textbook • Interactive Consumable Text • Assessment Materials <ul style="list-style-type: none"> – SMI – Trans Math • Online Vport Access 	<ul style="list-style-type: none"> • Manual <ul style="list-style-type: none"> – Specific lesson plans with instructional guide • Resource Guide • Manipulatives • Online Vport • Smart board lessons • Support and monitoring student progress via online access

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Support and Monitoring

- Assessments
 - Diagnostic
 - SMI
 - Formative
 - Quizzes and End of Unit
 - Summative
 - Vport

- Next Steps
 - PLC's are meeting afterschool to create common formative assessment to be used for final exam

First Year Data



What would be the challenges for your district to provide High School math intervention?



What we learned...

- Teachers need support
- Constant reflection (teachers and district)
- Pacing
- Classroom management
- Support from building level administrators
- Informing parents
- Factors out of our control:
 - Weather, technology, course title, math confidence, teacher resistance

Questions?

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Alamance-Burlington School System

Math Course Placement Considerations and Criteria

2014-2015

The Alamance-Burlington School System K-12 Curriculum Department believes that appropriate placement in mathematics courses is critical for success in increasingly higher, more challenging advanced levels of mathematics in middle and high school.

The goal of this document is to support schools in their placement efforts by identifying criteria from multiple data points in order to allow students to maximize future mathematical opportunities.

Student achievement of standards-based mathematics content, concepts, skills and processes is evidenced by summative state testing results; classroom performance; teacher observation and evaluation of students daily work habits, and the skills and reasoning they use for learning mathematics.

All data points are not required for a student to be placed in a course; attendance, potential, work habits and other data points specific to schools should be considered for placement.

Understanding SMI and Quantile Scores

The SMI Performance Levels allow teachers to determine where student performance falls when matched against the range of scores on the Quantile Framework. These performance scores are intended to be used as a way to track progress towards mathematics proficiency by the end of each grade relative to algebra readiness skills.

Typical quantile growth: 5th and 6th grade – 85 points; 7th, 8th and 9th grade – 50 points

There are four Performance Levels:

- **Advanced:** Students scoring in this range exhibit superior performance when tested on grade-level appropriate skills and concepts and may be considered above grade level in mathematics.
- **Proficient:** Students scoring in this range exhibit appropriate performance when tested on grade-level skills and concepts and may be considered on grade level in mathematics.
- **Basic:** Students scoring in this range exhibit minimally competent performance when tested on grade-level appropriate skills and concepts and may be considered below grade level in mathematics.
- **Below Basic:** Students scoring in this range exhibit less-than-minimally competent performance when tested on grade-level appropriate skills and concepts and may be considered significantly below grade level in mathematics.

SMI Student Performance Data Table (The levels below reflect Quantile scores aligned to the state prior to 2013. The scale bands below should be used for the SMI data point when placing students for the 2014-2015 school year.)

Grade	Below Basic	Basic	Proficient	Advanced
2	At or Below 100Q	100Q to 215Q	220Q to 420Q	At or Above 425Q
3	At or Below 215Q	220Q to 395Q	400Q to 520Q	At or Above 525Q
4	At or Below 350Q	355Q to 465Q	470Q to 720Q	At or Above 725Q
5	At or Below 550Q	555Q to 675Q	680Q to 820Q	At or Above 825Q
6	At or Below 640Q	645Q to 775Q	780Q to 950Q	At or Above 955Q
7	At or Below 700Q	705Q to 885Q	890Q to 1040Q	At or Above 1045Q
8	At or Below 800Q	805Q to 1025Q	1030Q to 1140Q	At or Above 1145Q
9	At or Below 865	870Q to 1095Q	1100Q to 1220Q	At or Above 1225Q

ABSS Middle School Math Course Placement Criteria

Course Name	ABSS Placement Criteria 2014 - 2015	Curriculum
6th Grade Math Advanced	<ul style="list-style-type: none"> ➤ AIG Math Identified (Resource Level) ➤ 5th Grade SMI Quantile Score at or above 825 ➤ EVAAS Achievement Probability of Level 4 on Math I EOC: 70% ➤ Math Class Performance of A/B in 5th Grade ➤ 5th Grade Teacher Recommendation of Math Capabilities ~ “High Achieving” ➤ Previous EOG Math Scores at or above the 70th percentile 	Compacted 6 th and 7 th Grade Common Core Standards
6th Grade Math	<ul style="list-style-type: none"> ➤ All students who are not placed in Advanced Math 	6 th Common Core Standards
7th Grade Math Advanced	<ul style="list-style-type: none"> ➤ AIG Math Identified Resource Level ➤ AIG Math Identified Accelerated Level (6th) ➤ 6th Grade SMI Quantile Score at or above 955 ➤ EVAAS Achievement Probability of Level 4 on Math I EOC: 70% ➤ Math Class Performance of A/B in 6th Grade Advanced ➤ 6th Grade Teacher Recommendation of Math Capabilities ~ “High Achieving” ➤ Previous EOG Math Scores at or above the 70th Percentile 	Compacted 7 th and 8 th Grade Common Core Standards
7th Grade Math	<ul style="list-style-type: none"> ➤ All students who are not placed in Advanced Math 	7 th Common Core Standards
8th Grade Math Advanced/Math I	<ul style="list-style-type: none"> ➤ AIG Math Identified Resource Level ➤ AIG Math Identified Accelerated Level (7th) ➤ 7th Grade SMI Quantile Score at or above 1030 ➤ EVAAS achievement probability of a level 4 on Math I EOC: 70% ➤ Math Class Performance of A/B in 7th Grade Advanced ➤ 7th Grade Teacher Recommendation of Math Capabilities ~ “High Achieving” ➤ Previous EOG Math Scores at or above the 70th Percentile 	Compacted 8 th Common Core/Math I Standards for Assessment
8th Grade Math	<ul style="list-style-type: none"> ➤ All students who are not placed in Advanced Math 	8 th Common Core Standards

ABSS High School Math Course Placement Criteria

Course Name	ABSS Placement Criteria 2014-2015	Curriculum
Foundations of Math III PAIRED WITH Math III	<ul style="list-style-type: none"> ➤ Must have earned a Math I and Math II credit ➤ Designed for students who have successfully passed Foundations paired with courses for Math I and II. 	This course will be developed in the summer based on the enrollment information.
Math II Honors	<ul style="list-style-type: none"> ➤ AIG Math Identified ➤ Must have an earned Math I credit ➤ Math Class Performance of A/B in Math I ➤ Teacher Recommendation of Math Capabilities/Reasoning Skills ~ "High Achieving" ➤ Math I EOC: Level 3/Level 4 	Math Course II Common Core Standards and Plus Standards that support the Honors Framework
Math II	<ul style="list-style-type: none"> ➤ Must have an earned Math I credit ➤ Class Performance C or below in Math I ➤ Teacher Recommendation of Math Capabilities/Reasoning Skills ~ "Average Achieving" or "Slightly Below Achieving" ➤ <i>MS SMI Quantile Score below 1030 (rising 9th graders only)</i> ➤ Math I EOC: High Level 2/Level 3 	Math Course II Common Core Standards
Foundations of Math II PAIRED WITH Math II	<ul style="list-style-type: none"> ➤ Must have an earned Math I credit ➤ Math I repeaters or students who successfully complete the Intro. Math/ Foundations and/or Foundations paired with Math I sequence ➤ Math I EOC: Level 1 or 2 ➤ Class Performance D or below in Math I 	Foundations of Math II Curriculum and Math Course II Common Core Standards
Math I/Math I Co-taught	<ul style="list-style-type: none"> ➤ EVAAS achievement probability for a level 3 in Math I: 50% ➤ Class performance of a C or above in 8th grade math ➤ Teacher Recommendation of Math Capabilities/Reasoning Skills ~ "Average" ➤ <i>MS SMI Quantile Score at or above 980 (1030 for Algebra-Readiness based on Scholastic Recommendation)</i> ➤ 8th Grade EOG Math Score: Level 3 ➤ <i>Consideration for Co-taught Math I: MS SMI Quantile Score 890 to 980 and/or 8th Grade EOG Math Score: High Level 2/Low Level 3</i> 	Math I Standards for Assessment
Foundations of Math I PAIRED WITH Math I	<ul style="list-style-type: none"> ➤ EVAAS achievement probability for a level 3 in Math I: 20% to 50% ➤ Class average of D in 8th grade math ➤ 8th Grade SMI Quantile Score: 780 to 885 ➤ 8th Grade EOG Math Score: Level 2 ➤ Reading Achievement Level: below grade level 	This course is appropriate for any student (EC and/or General Education) who meets the criteria. Trans Math Level 3 will be the curriculum for this course. EC students would benefit from this course in lieu of curriculum assistance as this course is co-taught. Students who successfully complete this course would be considered ready for Math I.
Introductory Mathematics PAIRED WITH Foundations of Math I	<ul style="list-style-type: none"> ➤ EVAAS achievement probability for a level 3 in Math I: less than 20% ➤ Class average of D in 8th grade math ➤ 8th Grade SMI Quantile Score: below 775 ➤ 8th Grade EOG Math Score: Level 1 	This course is appropriate for any student (EC and/or General Education) who meets the criteria. Trans Math Level 2 will be the curriculum for this course. EC students would benefit from this course in lieu of curriculum assistance as this course is co-

	<ul style="list-style-type: none"> ➤ Reading Achievement Level: 2 or more years below grade level ➤ General Education and/or EC students who have received Trans Math Intervention (Level 1 or Part of Level 2) in Middle School. 	taught. Students who successfully complete this course would be considered ready for Foundations of Math I.
<ul style="list-style-type: none"> • OCS Introduction to Math • OCS Math 1 • OCS Financial Management 	OCS identified students per IEP – coordinate placement with EC department and the student’s transition plan	
Fundamental Math 1	Math I exempt students per IEP – coordinate placement with EC department and the student’s transition plan	

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