

Best Practices for Academic Support Classes - Math

This document is designed to help teachers, coaches and administrators in creating an Academic Support Class model that is effective for student learning. The following are recommendations for how to build an effective ASC model.

Objective of the Academic Support Class (ASC)

Unavoidably, some students will enter a particular grade underprepared for grade-level mathematics. We know from research and experience in BVSD that basic level classes only serve to perpetuate and compound this situation. On the other hand, research and experience suggest that these students *can* be successful with grade-level mathematics if they are given a proper support in the form of an ASC class. The objective, then, of an ASC class, is to help underprepared students be successful in rigorous, grade-level mathematics.

The Instructor is one who...

- Believes that all students can learn rigorous mathematics regardless of the student's prior math preparation.
- Is highly qualified in mathematics, and/or understands the fundamental underpinnings of number, operations, and how students learn mathematics.
- Teaches the corresponding grade/course that the ASC supports,
- Is an integral part of the RTI process,
- Has a portfolio of strong instructional strategies, including:
 - Uses assessment to inform instruction,
 - Implements collaborative learning,
 - Engages students in setting personal learning goals,
 - Builds on student's prior knowledge,
 - Utilizes multiple modalities of learning and assessment,
 - Is familiar with current "best practices" for mathematics pedagogy.
- Builds strong relationships with students. Can make connections with students and their learning. Is able to and willing to work with students who do not have established success in mathematics.
- Can build a safe environment where students are able to think in alternative fashions and process at personal levels.

The Instruction

- The emphasis is on pre-teaching grade-level content and reinforcing numeracy skills,
- Pre-teaching should be exposing students to greater context and skill development in preparation for what they will be learning in the content class.
- Targeted skill-building is built into the pre-teaching when the skill is needed for the current ELO being taught in the content class. This provides a context for the student.
- Emphasis on vocabulary and writing math understandings and processes.

- Presents the essential learnings and key concepts with both the strategy they will be taught in the content class and using conceptual models beyond what will be taught, allowing for multiple representations and methods.
- Materials used align with materials used in classrooms and extend beyond to address all learning modalities.
- ASC teachers identify common misconceptions, pitfalls and areas where a solid prediction can be made that students will struggle. This knowledge will allow the teacher to provide the background knowledge for students prior to the topic being addressed in the content class.
- Instructional focus is on tools and models
- ASC is NOT homework help or study hall. ASC is a time for more math instruction for the student. The teacher may set aside a small portion of the time for follow-up from the day's content class, or to address questions on the previous day's homework, but the bulk of the class should follow the pre-teaching model.

The Structure

- All content teachers need to be in proximity on sequence.
- Tools/models/strategies used in ASC are accepted and permitted to be used in content classes during lessons and on assessments. Likewise, ASC teachers should be familiar with and referencing the tools, models and strategies that are being used in the content class.
- Elevates student status. This is not the “dumb” class, but allows students to identify divergent thinking and alternative methods of problem solving while providing structured skills support. These students are not necessarily poor math students, but may need support with skills gaps, rigid algorithms and formulas and thinking strategies or “habits of mind” related to math concepts.
- Administrative support and leadership needs to be in place for accountability, organization, training and problem-solving. These may include facilitating ASCs through master-scheduling, setting clear expectations for participation, monitoring instructional practices, providing a guiding vision and support for what the ASC is meant to accomplish.
- At least once a month, faculty who teach the ASC sections will meet as an ASC team to discuss planning, assessment and continued development of the ASC course.
- Regular, weekly, common planning for ASC teachers and the content course teachers must be scheduled. Ideally, the ASC teacher also teaches the regular content class. (Ex: ASC-Geometry teacher, also teaches the Geometry class)
- Quarterly district-wide meetings for all ASC teachers to reinforce strategies and provide professional development around best practices for the ASC course.
- ASC sections should be specific to the math course in which students are enrolled. Ex: ASC-6th; ASC- Algebra 1; ASC-Geometry; ASC- Algebra 2.
- ASC teachers should have pre-service training and on-going monthly training on best practices using tools and models.

The Placement Process

- Open entry
- Placement in the ASC should be based on a Body of Evidence (BOE) as this is a Tier 2 Intervention for students.
 - The BOE may include:
 - CSAP scores (For example: Unsatisfactory, Partially Proficient, or within a certain scale score range)
 - Performance in previous two years, with anecdotal accounts from teachers on specific strengths and weaknesses. Recommendation from previous year's math teacher should receive special consideration.
 - Current performance in math class (D or F; 1 or 2 with specifically identified challenges related to skills and performance and not behavior or language).
 - Results from BVSD Middle School Mathematics Transition Assessment or BVSD Algebra Readiness Assessment.
 - 5th grade teachers can use Add+Vantage Math Recovery Assessments as a diagnostic assessment to indicate specific needs
- Intentional non-learners (those with incomplete homework, poor class participation or behavior issues) should not be placed in this class unless it is determined that the non-learning stems from specific skills deficits.
- Students with identified learning disabilities should not be placed in this class, And English Language Acquisition students should only be placed when it is determined that the math deficits are caused by specific math skills deficits and not language or emotional needs.
- Open Exit
 - Based on progress monitoring, the student may be exited from ASC if it is believed that he/she has the skills and confidence to succeed in the content course. Decision should be based on input from ASC teacher, content teacher, student and parent.

Writers:

- Michael Matassa, Secondary Math Coach
- Jackie Weber, Director of Math Curriculum

Contributors:

- Karen Wallace, Angevine Middle School
- Katie Mills, Manhattan Middle School
- Dan Greenberg, Casey Middle School
- Fred Pack, Centaurus High School
- Beth Spangler, Boulder High School

- Bertha Orona, Secondary Math Specialist

- David Woodward, Elementary Math Specialist