

Gallery Walk, Math Congress, and Bansho: Strategies for Rich Dialogue, Sharing, and Thinking

Gallery Walk: Once students are completed their work, they can either post their solutions or leave them on their desks for viewing. Similar to a museum, the mathematical community (students and teacher) travel around viewing, observing, and reflecting upon the mathematical representations and explanations in the students' work. The viewing of the students' artifacts may prompt questions, reflections, and further explanations. In this case, the participants are encouraged to write their thoughts down, which may act as a starting point for further dialogue within the classroom. These conversations may further develop over a period of classes. In all, gallery walks create positive spaces for learning as each student or group of students share their mathematical thinking while making reference to their own work.

Math Congress: Cathy Fosnot's ongoing experience and research within mathematic classrooms has led to a high yield technique known as the Math Congress. The Math Congress facilitates rich observation and discussion of mathematical thinking. The aim of the Math Congress is to debrief the strategies undertaken by students, uncover multiple representations of mathematical thinking, and facilitate a deeper understanding of concepts. Teachers decide on a small sample of students' work and focus on these samples through classroom sharing (i.e. dialogue), questioning, and visual representations. The student or group of students defend and explain their thinking while teachers provide an opportunity for their students to see, hear, and explain different ways / methods of solving open-ended questions. The classroom becomes a community of learners where both the teacher and students engage in dialogue, exchange ideas, and discover new strategies to solve mathematical problems and uncover through dialogue new ways of looking at mathematics.

Fosnot, C. T., & Dolk, M. (2001). *Young Mathematicians at Work Constructing Fractions, Decimals, and Percents*. Portsmouth, NH: Heinemann.

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Bansho: this technique roots itself in the Japanese culture. It is strategy where teachers organize student work and lead conversation(s) that foster an opportunity for students to see and situate their own thinking within a classroom community. Students' work is posted and reflected upon by matching and comparing the mathematical strategies and explanations shared. Teachers engage in the process as a facilitator who organizes the student work and leads conversation. The dialogue or conversation that results provides an opportunity for all learners to acquire a deeper understanding about the math used in developing solutions to a problem. The mathematical strategies are addressed, compared, and reviewed as a classroom community, which helps to sort, classify, and deconstruct solutions. The bansho is a visual display of all students' solutions, organized from least to most mathematically rich. This is a process of assessment *for* learning and allows students and teachers to view the full range of mathematical thinking their peers used to solve the problem. Students have the opportunity to see and to hear many approaches to solving the problem and they are also able to consider the strategies that connect with their next step in their conceptual/relational learning of the mathematics. Bansho is not a process about assessment *of* learning, so there should be no attempt to classify solutions as level 1, 2, 3, or 4.