

# Oregon Math Project

## Practice Brief: Tracking

Elyssa Stoddard, Megan Brunner, & Rebekah Elliott, Oregon State University

### What is the Issue?

Tracking, also known as ability grouping students into particular courses, has been commonplace in K-12 schools and particularly in mathematics classrooms since the 1920s. While some argue that tracking allows for more targeted instruction based on student ability and need, research has demonstrated that tracking often results in inequitable teaching and learning for students. Certainly, students have different needs and abilities that need to be attended to, however tracking isn't the answer given the persistent inequalities that result from it. This practice brief discusses the impact tracking has on students and describes alternatives for teachers and schools.

### Why it Matters:

- **Tracking is inequitable**: Students minoritized in schools are placed in lower track courses at higher rates than their white peers.<sup>1</sup> This contributes to what opportunities students have to learn and how they see themselves as capable learners. This contributes to the inequalities documented in system level assessments.
- **Impact on student learning**: Lower track classes frequently focus on below grade-level content and over-reliance on procedures thus not preparing students to advance in mathematics. These courses are often taught by the least experienced teacher or by teachers with minimal certification or licensing. One study found that students who were given grade-appropriate assignments met the demands of those assignments the majority of the time regardless of the track where they were enrolled.<sup>2</sup> Additionally, students who began the year testing behind their peers demonstrated more than 7 months of academic gains when they had greater access to grade-appropriate assignments.
- **Labels send a message**: How courses are labeled (i.e. advanced, college preparatory, regular, foundational) can perpetuate status issues among students.<sup>1</sup> Status based on perceived academic, social, or other capabilities, when unattended to, can perpetuate biases and systemic inequality. Course labels often send a message that “advanced courses” are somehow more important than applied courses such as those in career and technical education departments.
- **Students see the inequity of tracking**: Research on detracking documents that students are aware of the inequity of being tracked in courses. Students in one study expressed how easy it was to be moved to a low track course yet widely experienced great difficulty to shift into a high track course.<sup>3</sup> They also recognized that some teachers give more attention and effort to higher track courses than to lower track courses and thus students received less attention and quality of instruction.<sup>3</sup>
- **Teacher tracking hinders system coherence**: Teachers are also tracked, meaning they teach a limited scope of courses or are assigned courses with particular course titles (regular, foundational, etc.). This limits teachers' professional growth and the school's or department's instructional coherence.<sup>7</sup>

## Big Questions:

1. What process does your school use to assign students to a course?
2. What is the impact of tracking on students' status, course taking, and access to grade level math in your school/district?
3. How can students' diverse needs and abilities be met and challenged in a heterogeneous setting?
4. Who needs to be a part of conversations on tracking?

## In Oregon & Beyond:

- **Oregon Schools**: Districts are exploring ways to grade level mathematics in every grade.<sup>2</sup> For example, for those entering a trimester system, teachers may offer first trimester courses so that all students, even those who were tracked to a “lower level” course, can enter into “grade level” mathematics in trimester two and three. First trimester content provides robust opportunities to work on procedural fluency and standards for math practice such as modeling.
- **San Francisco United School District**: Mathematics courses were de-tracked started in middle school with students completing the same core course sequence during grades 6 through 9, including Algebra I. Afterwards, course options allow for students to choose the path of rigorous mathematics they wish to pursue.<sup>6</sup>
- **Look to the National Council of Teachers of Mathematics**: Read their recent publication *Catalyzing Change*.<sup>7</sup>

## Future Steps:

- **Create supportive routines and structures that attend to grade level learning and status when detracking courses and schools**: When systems change from traditional ability grouping to detracked courses, teachers need routines and structures built within courses to support each and every student to learn grade level content and to establish norms for addressing status. Co-requisite courses that support student success with grade-level content must attend to problem solving and concepts, not just procedures.
- **Create multidimensional courses**: Utilize mathematical tasks that have multiple entry points and solution paths. Often these tasks ask students to work together in groups.<sup>4</sup> This way all students can participate and find success, while also seeing that success in mathematics is not just getting an answer. Mathematics involves communicating with others, developing strategies, asking good questions, and persevering when solutions are not obvious.
- **Work to change community beliefs**: Teachers, students, and community members need to believe that all students are mathematically capable if detracking efforts are going to be sustainable and successful.<sup>5</sup> To change beliefs, teachers should be provided with supports such as common planning time, professional development, and curricular resources. Students previously in low track courses should be supported academically so they feel capable of taking on detracked courses. All students should feel supported and understand that they are capable of being successful in mathematics.

<sup>1</sup> Wells, C. L. (2018). Understanding issues associated with tracking students in mathematics education. *Journal of Mathematics Education*, 11(2), 68–84.

<sup>2</sup> TNTP. (2018). The opportunity myth: What students can show us about how school is letting them down - And how to fix it. Brooklyn, NY: TNTP. Retrieved from <https://tntp.org/publications/view/student-experiences/the-opportunity-myth>

<sup>3</sup> Yonezawa, S., & Jones, M. (2006). Students' perspectives on tracking and detracking. *Theory into Practice*, 45(1), 15–23. Retrieved from JSTOR.

<sup>4</sup> Boaler, J. (2006). How a detracked mathematics approach promoted respect, responsibility, and high achievement. *Theory Into Practice*, 45(1), 40–46.

<sup>5</sup> Rubin, B. C. (2006). Tracking and detracking: Debates, evidence, and best practices for a heterogeneous world. *Theory Into Practice*, 45(1), 4–14.

<sup>6</sup> San Francisco Unified School District Mathematics Department. (n.d.). Retrieved September 16, 2019, from SFUSD Mathematics website: <http://www.sfusdmath.org/>

<sup>7</sup> *Catalyzing Change - National Council of Teachers of Mathematics*. (n.d.). Retrieved August 19, 2019, from <https://www.nctm.org/catalyzing/>