Excerpts from Oakes, J. (1992). Can tracking research inform practice? Technical, normative, and political considerations. *Educational researcher*, *21*(4), 12-21.

Considerable evidence challenges the widely held norm that tracking and ability grouping effectively accommodate students' differences-at least in terms of boosting school- ing outcomes. For more than 70 years, researchers have in- vestigated this "bottom line" question, producing a literature that is voluminous and of varying quality. Yet the best evidence suggests that, in most cases, tracking fails to foster the outcomes schools value.

Elementary schools do not increase achievement by dividing students into whole classes by ability levels. And while some limited and flexible regrouping strategies yield positive effects on average achievement (particularly multigrade plans that encourage student mobility between "levels"), they also usually in- crease the inequality of achievement (see, e.g., Slavin, 1987). Over time, then, the gap between high- and low-group students widens.

Moreover, we don't know that the slight positive effect on average achievement is sustained over years of schooling. Secondary students in tracked classes gain no achievement advantage (either overall or for any particular group of students-high, average, or low ability) over their peers of comparable ability in nontracked classes (Slavin, 1990).

However, high-track students in tracked secondary schools benefit academically compared with comparable students in lower-track classes (Gamoran & Mare, 1989). But, as I'll describe below, these benefits seem to result from the enhanced opportunities enjoyed by those in the high track, rather than from the homogeneity of their group.

Over time, track- ing fosters friendship networks linked to students' group membership (Hallinan & Sorensen, 1985; Hallinan & Williams, 1989). These peer groups may contribute to "polarized," track-related attitudes among secondary students, with high-track students more enthusiastic and low-track students more alienated (Oakes, Gamoran, & Page, 1991). High-track students convey greater self- confidence, not only about their academic competence, but generally (Oakes, 1985). While it is unclear whether track- ing causes or sustains these dispositions, they reflect school norms.

Finally, placement influences students' attainment and life chances, above their achievement. Track placements are partly because early assignments shape students' experiences. By high school, track location has a influence-with college-track students enjoying pects for high school completion; college attendance, and graduation; and, indirectly, high status occupation, their otherwise comparable non-college-track (Gamoran & Mare, 1989; Vanfossen, Jones, & Spade, Wolfle, 1985).

Throughout the grades, race, social class, and track ment correlate consistently, with low-income students and non-Asian minorities disproportionately enrolled in low track classes. For example, Table 1 shows that science and mathematics classes in which Whites are overrepresented (in comparison with their numbers in the school) are about six times more likely

to be high-track classes (as identified by teachers) than are disproportionately minor- ity classes. At the same time, classes with disproportionately minority enrollments are seven times more likely than classes in which Whites are overrepresented to be low-track classes. These patterns also begin at the elementary level (Oakes, 1990). Ultimately, these differences in opportunity place limits on the educational and occupational futures of low- income, African-American, and Latino students.

In secondary schools, students' prior achievement affects track placement most strongly, although background char- acteristics also matter. For example, data from the Second International Math Study show social-class differences in the math class assignments of U.S. students-with White students and those whose fathers hold high-level occupa- tions more likely to be placed in algebra than other eighth graders with comparable past (McKnight, *et al*, 1987). Qualitative studies suggest that students receive different information, counselors and teachers.

Large-scale studies document typical patterns of track-related differences in the knowledge presented to students, in in- structional strategies and resources (including teachers), and in classroom climates. Case studies flesh out these patterns, providing insight into the dynamics behind them and iden- tifying variations that correspond to local conditions.

Students' ability-group assignments propel them through the largely common elementary cur- riculum at different speeds. The resulting coverage dif- ferences mean that low-group students fall further behind and receive increasingly different curricula (even though the groups that go slower usually have the somewhat illogical goal of "catching-up"). These differences tend to stabilize students' track placements, since those in lower groups miss the curricular prerequisites for higher groups. Secondary students earn equivalent credits toward gradua- tion by taking different, tracked courses.

For example, in the 25 secondary schools studied by (1984), high-track students were more often presented with traditional academic topics and intellectually challenging skills. High-track teachers' most important goals often included students' competent and autonomous thinking. By contrast, low-track teachers stressed low-level skills and conformity to rules and expectations (Oakes, 1985). Typically, teachers of low-ability science and mathematics classes place less emphasis than do teachers of high-classes on subject-related curriculum goals.

Most secondary schools track teachers well as students. Although some schools rotate teachers between low- and high-ability classes, typically, however, teachers jockey among themselves for high-track ments or principals use assignments as rewards and promotions. Such political processes work to the detriment of lower tracks because the least well-prepared teachers usually end up with them. Teachers of low-ability science and matics classes typically have less experience, are less likely to be certified in math or science, hold fewer degrees subjects, have less training in the use of computers, and less often report themselves to be "master teachers" than upper-track colleagues (see Figure 4). These troublesome assignments are most evident in schools with large minority and low-income populations, because these schools have fewer

well-qualified teachers to begin with. In such low-track students are frequently taught math and by teachers who are not certified to teach those subjects, they are certified at all (Oakes, 1990).

Tracking produces a consis- tent pattern of instructional disadvantage for students in low tracks. Typically, high-track students have the most time to learn; their teachers are clearer, are more enthusiastic, and use less strong criticism; the classroom learning tasks appear to be better organized, of greater variety, and more likely to engage students in "active" learning; and teachers assign more homework (e.g., Oakes, 1985; 1990). Lower track classes are more often characterized by dull, passive instruc- tion consisting largely of drill and practice with trivial bits of information. In mathematics and science, low-track teachers spend more time on routines, seat work, and worksheet ac- tivities. They introduce technology, such as computers, in conjunction with low-level tasks, such as computation (Oakes, 1990). Moreover, teachers seem to establish more supportive relationships with students in high-track classes whereas relationships in low-track classes tend more towards control. Low-track classes see greater student disruption, hostility, and alienation (Oakes, 1985; Page, 1987). Track-related differences in students' access to curriculum, teachers, and high-quality instruction stem from school norms dictating how ability should be defined, measured, and responded to; yet they can not be justified as educa- tionally appropriate adaptations to individual differences in learning aptitudes, speed, or style. Track-related differences demonstrate that tracking-however well intentioned and seemingly objectively implemented-leads to an unequal distribution of school resources, with academically socially disadvantaged students.

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